

Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

OCT. 21, 1946

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Navy Bat Potent Air Weapon

Radar guided glide bomb goes into service with air units; can be used on fighters; speed 320 mph.....Page 9

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Goodyear, Taylorcraft, Consolidated, entering aluminum prefab field; Douglas still consideringPage 11

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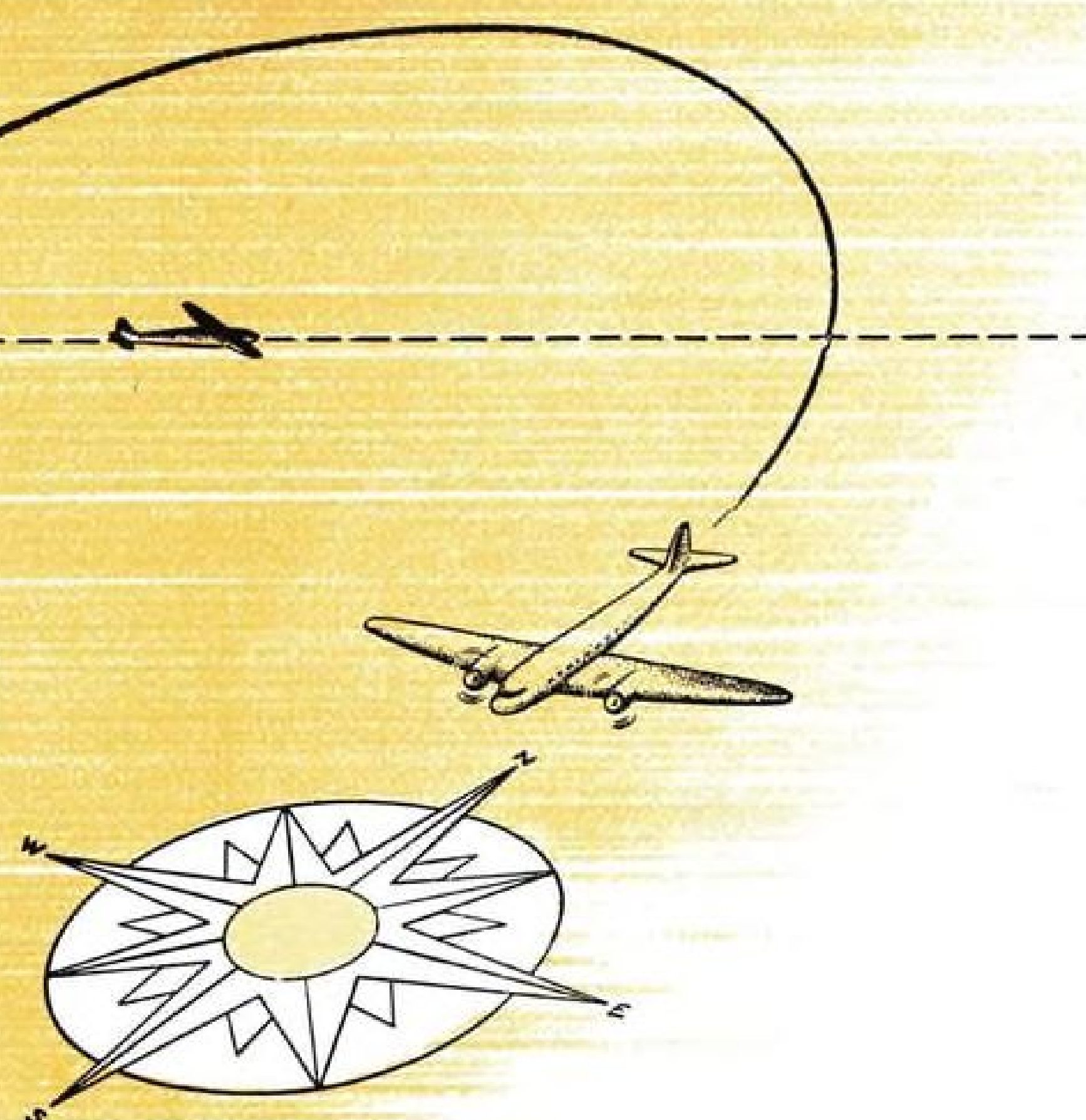
CAB Expected To Act In Alaska

Battle of certificated vs. nonscheds bitter as Board prepares to tighten controls over bothPage 29



New Role: Presiding last week at the fourth annual National Aviation Clinic at Oklahoma City was L. Welch Pogue, former CAB chairman, now president of the National Aeronautic Association, co-sponsor with the Oklahoma City Chamber of Commerce of the Clinic. This was Pogue's first appearance before a major aviation gathering in his new role as a non-Government aviation spokesman. He was elected NAA president at the national convention in July. Co-chairman with Pogue of the Clinic was Oklahoma's Governor Robert S. Kerr. (Story on page 7).

Our Business is Automatic Control



FOR 61 years—well over a half century—Minneapolis-Honeywell's business has been the development and application of automatic controls to specific needs.

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THE AVIATION NEWS

Washington Observer



TIGHTER INSTRUMENT REQUIREMENTS—Sharing airline concern over recent accidents in bad weather, CAA Administrator T. P. Wright is studying a plan to make instrument rating come up for renewal each six months, and for CAA air carrier inspectors to do more spot-checking of instrument ability. Under present regulations, an instrument rating is good indefinitely, subject only to the requirement that its holder must have had six hours instrument flying during the preceding six months. Most present spot-checking by inspectors is confined to checking pilots along regular routes, and not necessarily on instrument flying.

RECIPROCATING VS. JET ENGINES—Another sidelight on the inertia among some top officers at Wright Field that is provoking bitter comments by younger, more progressive workers is a controversy raging in the powerplant section over the respective merits of reciprocating and jet engines. While Great Britain has converted almost completely to jet propulsion, old-line powerplant engineering offices at Wright are refusing to recognize any benefits of jet propulsion and are insisting all effort be devoted to further development of larger and more powerful reciprocating engines.

FOOT IN THE IRON CURTAIN—Washington officials see in the precedent-setting air transport negotiations between Denmark and Russia a breakdown in the Soviet hands-off policy of making any airline agreements abroad. However, the cagey Russians so far have refused to discuss entry by the Danes into Moscow. Instead, they have offered rights for various Russian-controlled cities outside the Russian borders. The Danes are holding out for the capital or nothing.

CLINIC TO ROTATE—While high in their praise of the manner in which Oklahoma City has handled the four annual National Aviation Clinics to date, and appreciative of Oklahoma hospitality, some of the organizers of the Clinic feel the time has come to begin rotating the meeting each year among other major cities located in key sections of the country. They point out that the very word National in the title of the big annual get-together means it should not be confined to one city, and fear that there is a trend toward the Clinic's being identified only with Oklahoma City. The National Aeronautic Association conceived the Clinic as a national forum for aviation and there is important opinion on the side of staging the meeting in a different city each year.

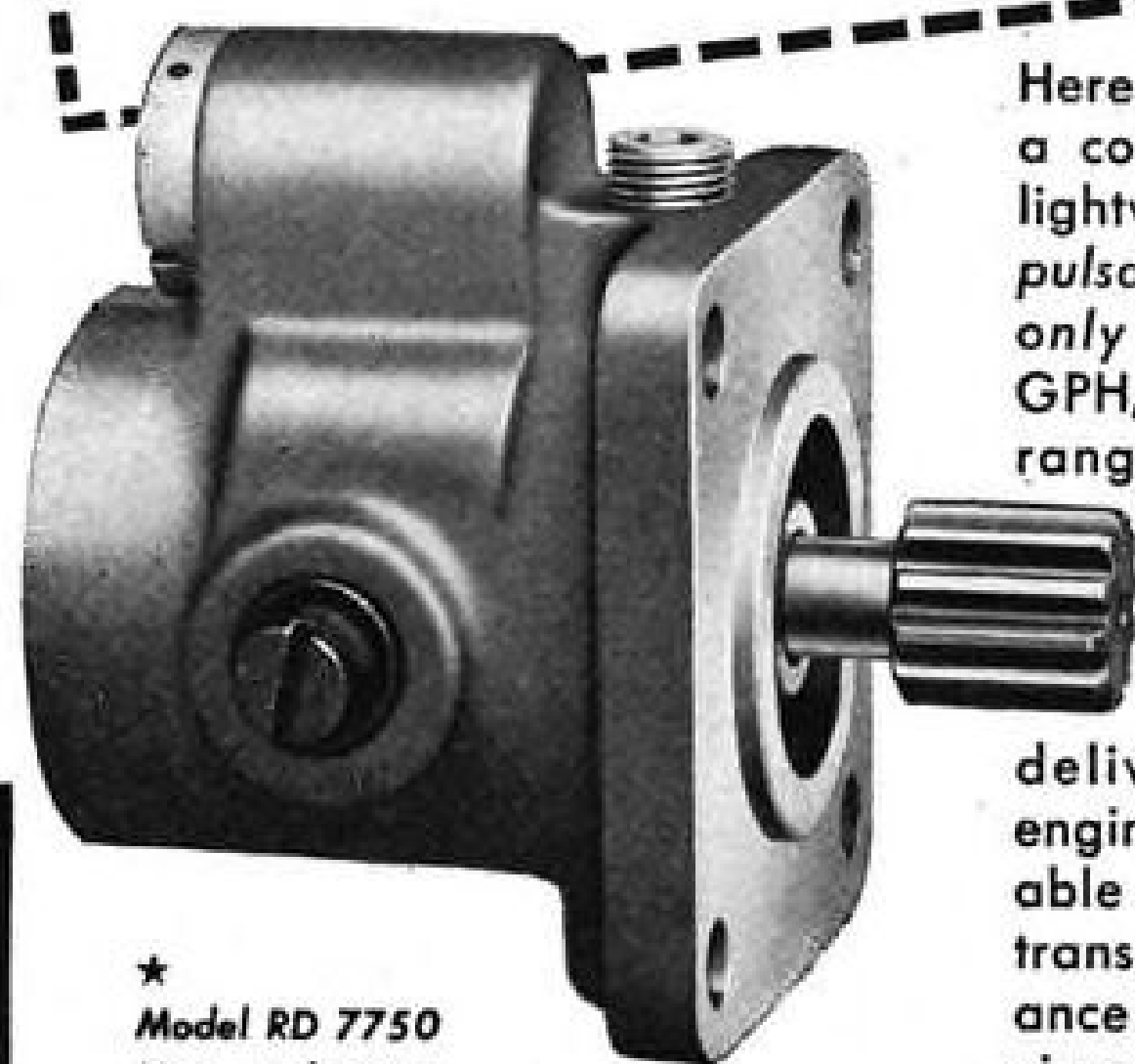
CHARGES FOR AIRWAYS—CA Administrator Wright will submit a report to Congress in January on the subject of charging for the use of Federal Airways, but personally feels that such charges should not be made at this time. He does not know what he will recommend to Congress, however, until hearing from the committee he appointed to study the matter. Wright is still smarting under a tongue-lashing given him at CAA's last budget hearings by Tennessee's Democratic Senator Kenneth McKellar. Wright feels McKellar is responsible for CAA's efforts to obtain revenue from its publications as an economy measure.

CRACK-DOWN ON NONSKEDS?—The rash of nonscheduled passenger air service advertisements, skirting pretty close to claiming frequency, are being studied intently by CAB's technical staff, with some informed opinion insisting that a crack-down is in the offing. A number of Board officials find it impossible to believe that these operators are so naive as not to realize they are violating the nonscheduled exemption order as re-interpreted in the Page and Trans-Marine cases. A few nonscheduled carriers have recently instituted considerable diversification in their services in an attempt to move back inside the regulation. Others continue in alleged violation, realizing that an adjustment of their operations to meet strict spirit-of-the-law exemption requirements would lay up enough of their equipment to court bankruptcy.

NON-SETTLING SETTLEMENT—The War Department directive which was supposed to settle the guided missile jurisdiction in the Army by putting AAF in charge of development (Aviation News, Oct. 14), settled nothing for key scientific workers outside who have been cooperating with the Army. They ask if weapons such as the Navy's Bat bomb (see Page 9), which is homing under its own control after it leaves the mother ship, are "guided." It is still a matter of interpretation, they say. And an interpretation is always open to dispute.

NEW AD APPROACH?—Public relations men in the airline industry were turning their thoughts last week to a possible shift in the tone of airline advertising—away from the four-color job extolling the virtues of airline travel to a more realistic report on what is being done to cope with problems of safety, congestion and general public service. Pace in this direction was set recently by UAL, and the recent series of airline accidents has given the idea impetus.

New 14 oz. Fuel Pump FOR LIGHT PLANES



★
Model RD 7750
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Fuel Pump.

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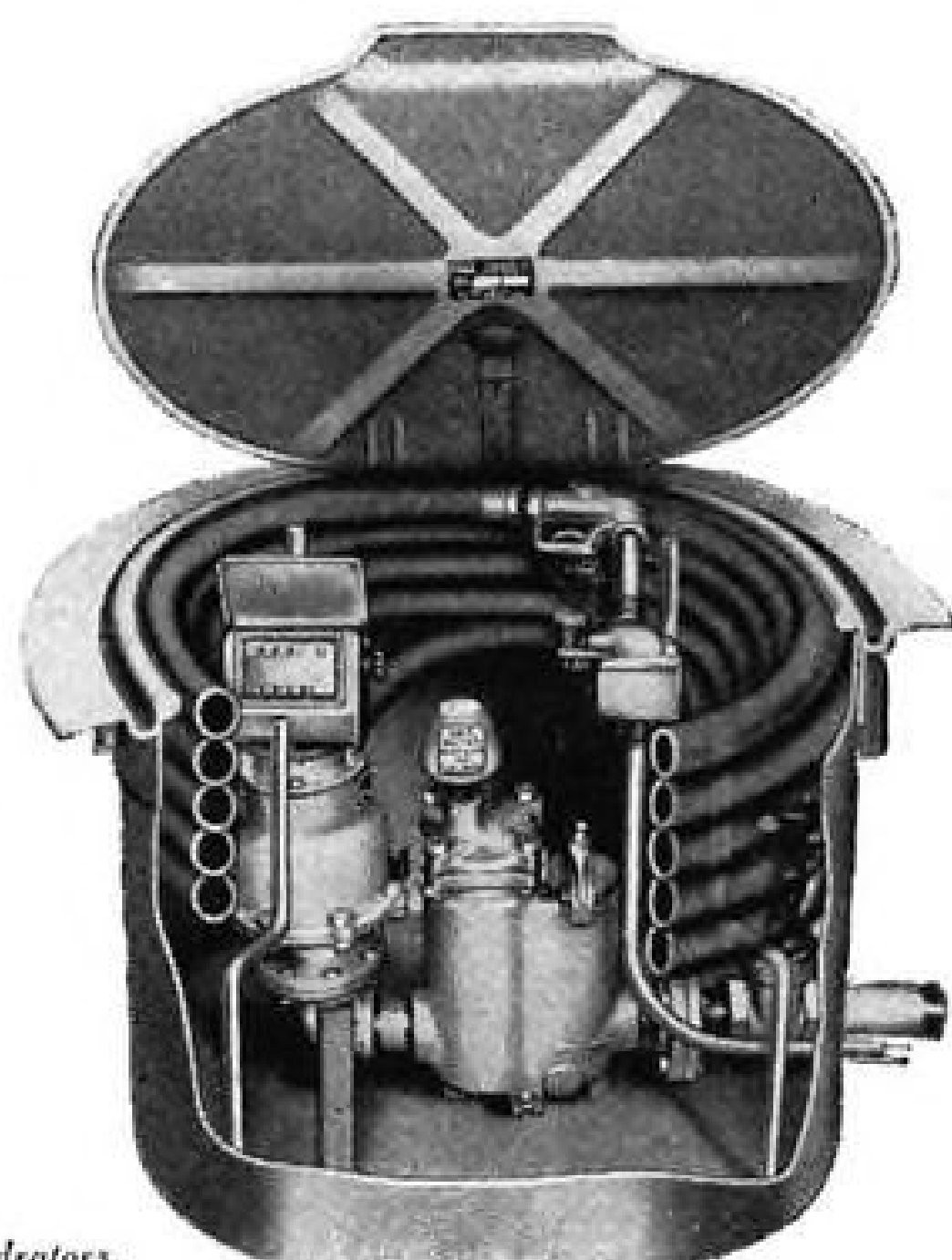
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AVIATION NEWS

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Editorial Headquarters
National Press Building
Washington 4, D. C.
Publication and Executive Offices,
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Pacific Coast Office, 621 So. Hope St.,
Los Angeles

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News Digest

DOMESTIC

Air mail volume showed increases varying from 5-25 percent during first week of new 5-cent rate. Post Office officials said last week on the basis of scattered reports. First comprehensive data will be available early this week when the department receives air mail poundage figures for the first 15 days of the month from 30 principal points.

Consolidated Vultee has received an order for 12 Convair 240 transports from KLM Royal Dutch Airlines at a total cost of approximately \$3,500,000. Deliveries are to begin in July, 1947. KLM is the first foreign airline to order Consolidated's 40-passenger plane.

Airlines Terminal Corp. has appointed Roy Callahan as general manager. He has been manager of the New York City Airport Authority and assistant commissioner of Marine and Aviation for New York City.

Aeronca Aircraft has completed the 5,000th Champion to be built at Middletown, Ohio, since V-J Day.

FINANCIAL

Curtiss-Wright Corp. will pay on Nov. 7 a dividend of 50 cents per share on class "A" stock to stockholders of record Oct. 24.

Consolidated Vultee had net sales of \$6,408,449 for the quarter ended Aug. 31, it has reported to Securities and Exchange Commission.

Alaska Airlines had a net loss of \$139,859 for the eight months ended June 30, on operating revenues of \$782,636.

Republic Aviation has filed with SEC a registration statement covering proposed issuance of an undisclosed number of \$50 cumulative convertible preferred and \$1 common stock for purchase of machinery and equipment for its subsidiary Aircooled Motors, Inc.

FOREIGN

Dodero International Airline, Buenos Aires, currently in process of liquidation, has completed arrangements to transfer to FAMA, Argentine government-controlled carrier, nine DC-4 aircraft. Completion of the deal awaits delivery of three C-54Bs now being converted by Aviation Maintenance Corp., Van Nuys, Calif.



Industry Observer

Black market resales of new Piper Supercruisers are worrying some Midwest Piper dealers and distributors. Typical of the resales is the case of one private pilot who realized a profit of \$1,000 over the list price of \$3,205 for his Supercruiser after it was delivered.

Production of Supercruisers is now up to 8 a day, with a 30 a day goal set for Dec. 1. Meanwhile production of the J-3 trainer is being gradually transferred to the Ponca City plant. The trainer will be completely out of Lockhaven by late December making room there for another Supercruiser line.

PCA will get the first Martin 202 to be delivered for airline use. It will be the second plane off the 202 line. Martin will keep the first for test purposes. PCA expects delivery early in January.

Vickers will shortly begin experiments with supersonic rockets to be launched from Mosquito bombers. Flight data will be gathered by radar.

Eight Pratt & Whitney Wasp Majors have been installed on the Hughes flying boat at Long Beach, Calif. and the plane will be ready for water taxi tests soon.

West coast aircraft manufacturers are developing a veterans training program that will employ veterans now in school for part time, on-the-job training. North American has taken the lead offering six hours employment at times chosen by the veterans.

New foreign orders for new Model 649 (fuel injection) Constellations have swelled the current Lockheed production backlog on the speedy transport to 72 planes valued at \$49,390,113. The following foreign airlines have ordered Model 649's for spring 1947 delivery: Aer Rianta Teorante, Dublin (3); Quantas Empire Airways, Australia (4); and KLM (7).

Two jet turbine versions of Northrop's XB-35 Flying Wing bomber are under construction. Military security has prevented the company from disclosing either the number of jet power plants to be installed in each plane or whether the engines will be the General Electric TG-180 or a turbine that has been under secret development by the Northrop-Hendy Co.

Award of a CAA airworthiness certificate is expected momentarily for the Nelson Aircraft Co. (San Leandro, Cal.) Dragonfly, two place powered glider, which has been under flight test for 6 mos. Ted Nelson, president, claims a backlog of \$1,000,000 in advance orders based on an original price tag of \$1900. Rising production costs will probably boost the price to nearly \$3,000. Douglas is offering four hours a day at times set by the company.

North American has scotched two rumors prevalent about its Navion (1) that the company was buying Globe Aircraft Co. maker of the Swift and (2) that North American was buying the Bendix lightplane designs for a three place land plane and a four place amphibian. North American studied both deals but decided against either purchase.

With orders for major assemblies on the new B-50, complete production of a new, radically designed, liaison plane for the Army Ground Forces and the Boeing Model 417 feeder transport, Boeing-Wichita expects to boost employment for the current 1,500 to 5,000.

Missouri and Pacific is the latest railroad to become interested in air cargo service paralleling its rail routes. The railroad's new president, Paul Neff, says the company will set up air schedules if it can get CAB approval. Non-scheduled operations are in prospect earlier competing with TWA Continental airlines.

Manufacture of North American Twin Mustangs (P-82) will begin at the company's Los Angeles factory in November. The Twin Mustang is the only non-jet fighter for which an AAF postwar production contract has been let. Powered by two Allison V-1710 engines, it has a service ceiling of 45,000 feet and an armament of six .50 caliber machine guns, four bombs and 25 rockets.



Airfoam

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To transport passengers in luxurious comfort, free from fatigue on longest flights, pacemaking new airliners like the Douglas DC-6 are equipped with deep-cushioned AIRFOAM seats, and AIRFOAM mattresses, too, in sleeper types. This wonder cushioning—a product of Goodyear research—cradles the body on millions of foam-like air cells, insures perfect rest

and relaxation, banishes cramp and strain. And, from an operating revenue standpoint, there is a saving in weight if the seating is designed around AIRFOAM. For complete technical data on this new AIRFOAM seat unit that combines superb luxury with zephyr weight, write: Goodyear, Aviation Products Division, Akron 16, Ohio or Los Angeles 54, California.

GOOD YEAR
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NATIONAL AIRCRAFT SHOW
November 15-24, 1946

Airfoam—T.M. The Goodyear Tire & Rubber Company

Future U. S. Air Policies Plotted At Fourth National Aviation Clinic

Top aviation men tell of future development and regulation of carriers, airports, private flying; cold facts and realism, clinic tone.

By ALEXANDER MCSURELY

A violently fluctuating and uncertain U. S. aviation industry which has just gone through a year of turbulent postwar readjustments, including tremendous expansions in some quarters and drastic shrinkages in others, last week groped for answers to its multiplicity of problems among speeches and discussions of the fourth National Aviation Clinic at Oklahoma City.

Top government aviation men plotted future policies for development and regulation of passenger and cargo carriers, airports and private flying, and projected the 1200-person clinic audience into a future world of supersonic speed flight and guided missiles. Manufacturers doubtfully appraised the uncertain future of aircraft production while fixed base operators and consumer representatives debated specific improvements needed in aviation products and service and outlined ways in which airplanes could be utilized more effectively.

Tone of the entire clinic was cold facts and realism which in some cases became pessimism, sharply contrasting with the ebullient optimism of earlier clinics. U. S. aviation had found its first postwar year a rough and troublesome one and wasn't at all sure that the second year might not be even more rough and troublesome.

CAB chairman James M. Landis talked frankly to the clinic and particularly to the air carriers, about recent air line crashes and their toll of dead and injured.

"It is your training, education, maintenance and supervision that will kill the American traveler or carry him safely . . . The best regulations and aids are set at naught

in the commonest of all accident verdicts: pilot error . . . Slipshod procedures in maintenance, pilot and other personnel training, under pressure of public demand for air transportation can have nothing but a boomerang effect upon our common future . . . There is no excuse for negligence . . . No penalty for misfeasance can be too severe . . ."

He added, in a press conference, that CAB is investigating recent accidents to see whether they are just a series of "happenstances" or due to remediable conditions. He promised regulatory steps to tighten up maintenance and inspection if investigation shows these at fault.

A half dozen "virulent" public complaints a day dropped on CAB's doorstep about inadequate air line service, makes CAB impatient with air carriers who project further expansion while they are unable to serve adequately what they already have, he pointed out. He sees: an emphasis too often and too much on more speed, more engine utilization, quicker turnarounds.

Current airline passenger rates are regarded as reasonable by CAB, and should be maintained during the current transition to new equipment, while costs are unstable, and additional taxes may be anticipated. Future hope for cost reduction lies in cutting ground operations rather than flight costs. So-called air mail subsidies are only a fraction of the public's payment for air mail, with a substantial profit to the Post Office Department. Received comments on the CAB's recent proposal to revise regulation of non-scheduled carriers are virtually

unanimously agreed on stringent safety regulation, a sharp distinction between cargo-only operations and passenger flights. Many comments seek uniform treatment of the nonscheduled operations, either overseas or domestic. He predicted early action on nonscheduled regulations. Steps are being taken toward simplification of CAB red tape, he indicated, with assistance "not financial", of the Bureau of the Budget. Chairman Landis also indicated that the CAB frowned on certain advertising practices of the nonscheduled air carriers, considering uses of the terms "immediate service" and "approved by the CAA" as misleading.

Variations in the plan form and airfoil section of airplane wings to take full advantage of possibility of transonic and supersonic speeds were described by John Victory, executive secretary, National Advisory Committee for Aeronautics. Swept wings, extending at angles either backward or forward from the fuselage, and extremely thin airfoil sections of diamond or circular arc shapes, are indicated.

Airplanes are expected to fly soon either at speeds below 600 mph. or above 800 mph. when the sonic barrier has been passed, and until more data about transonic speed are available.

"Aviation needs full understanding and not scolding from government," Fiorello LaGuardia, United Nations Relief Administration Director, and former mayor of New York, declared. Asserting that states were guilty of "shenanigans" in attempting to take over aviation jurisdiction which should belong to the federal government, or local city governments, he reviewed history of federal aids to navigation and highways as precedents for federal airport aid.

"Unlike the early days of the railroads, the airline industry has kept its house clean financially," LaGuardia added. "Early financing of the railroad was rotten, with millions lost by investors."

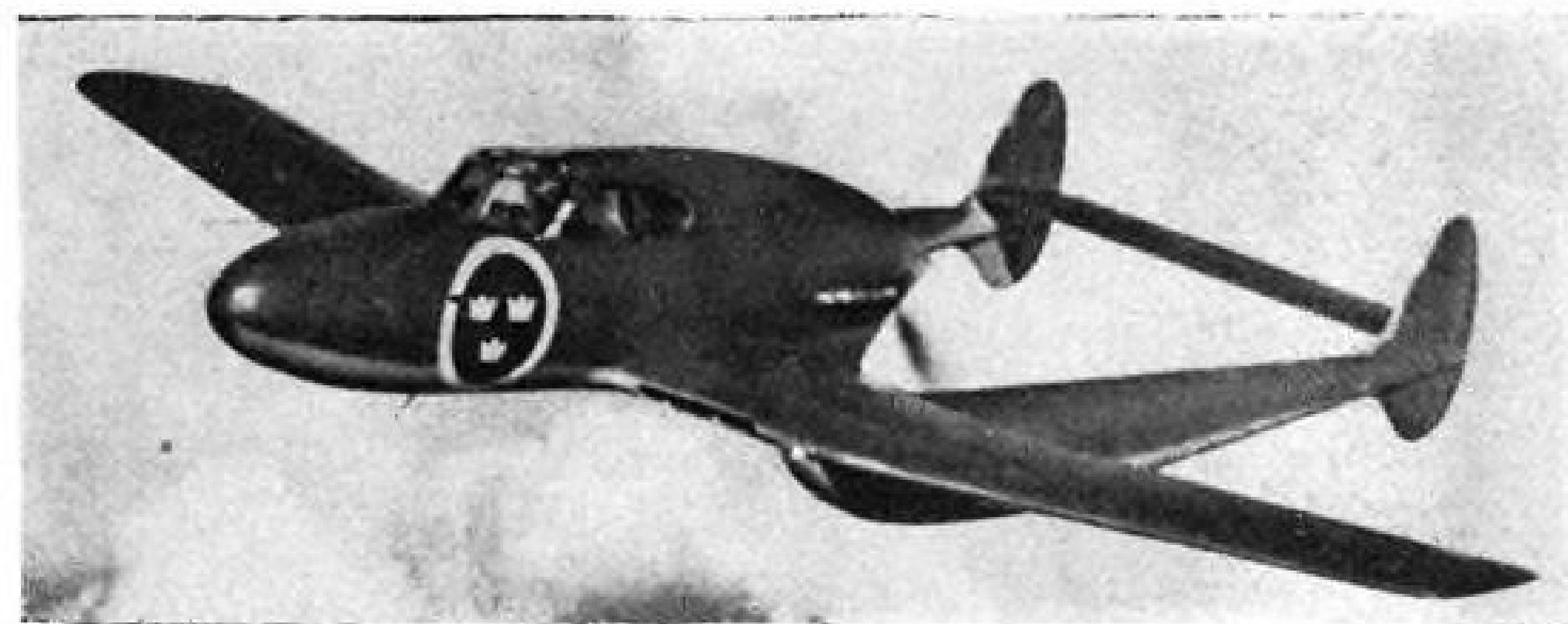
He warned against permitting airport legislation to sink to the

level of pork barrel legislation like that for rivers and harbors, and criticised CAA for interpreting the airport bill to allow large percentage of the funds to be diverted to small airports.

He warned against establishment of "super" regional authorities to operate airports or aviation problems, asserting that they had no checks of an elected government and all of its vices.

Procedure to be followed in the federal airport aid program which opens public hearings in Washington Oct. 28, was outlined by CAA administrator T. P. Wright. A community first submits to a CAA district engineer a project request, stating the type of airport desired and the sponsor's readiness to begin construction if aid is provided. The request is first passed by the engineer and then by the CAA Washington office for a tentative allocation of funds. The local government next submits agreement to operate and maintain the airport for public use and final plans and specifications. If this is satisfactory, CAA will make a formal grant offer which the project sponsor may accept within 60 days as a grant agreement, completing the transaction. The sponsor then may go ahead to begin construction, obtaining the federal share of the project cost in installments as the project continues. No provisions have been made thus far to ban noisy airplanes from airports constructed under this program as a nuisance, the administrator told a press conference. However if property owners' objections force the field to be placed so far out as to lose its utility in the overall plan, it can be disapproved for a loan. Wright said he had asked the CAB whether noise created by airplanes could be considered a safety violation and thus under Board jurisdiction, but that he did not expect the Board to consider it such a violation. He hopes that the priming given by the federal airport aid program will be all that is needed on top of the existing national airport program to provide real utility and to stimulate private developments at local airports.

Classic arguments for and against exclusion of surface commercial carriers from air transportation were presented in a debate by Robert Ramspeck, executive vice-president of Air Transport Association, and Robert S. Henry, assistant to the president,



NEW SWEDISH FIGHTER:

One of the domestic fighter designs of the Swedish air force is this Saab J-21A, a single-seater pusher twin-boom monoplane made by Svenska Aeroplan AB. Span is about 38 ft., and top speed around 403 mph. Plane is also used for reconnaissance and light bombing. A jet-propelled version, J-29 is in the experimental stage.

Association of American Railroads. The railroad's spokesman attacked the policy of exclusion of surface carriers as narrowing the field, and preventing the public from getting the full service to which it is entitled. Ramspeck pointed out that the history of all U. S. transportation was one of economic regulation and called for development of co-ordinated service without the ownership of different forms of transportation by the same company. Entry of surface carriers, either rail or water, into air transportation directly, he contended, if permitted by the CAB, would result in control over air transport by the older forms, and have a stifling effect on air transport.

Joint ownership and operation of airport terminal facilities necessary for handling passengers, mail, express, freight, and housing of airline personnel for these activities, was called for by Joseph McGoldrick, former New York comptroller, who pointed to the new joint airline-operated Chicago Airport Terminal as an example of what might be done in many other cities. He urged that terminal facilities be kept extremely simple and flexible during the next few years while the patterns of ground operation are undergoing important changes.

Arthur I. Boreman, Des Moines publisher, and NAA vice-president, criticized the federal airport act as not providing enough money to go around, and not promoting maximum economic and employment benefits. In the long run, he believes, aviation interests and the public would be better off without further federal airport financing. He recommended instead a plan where the government

would finance purchase, grading and drainage of land and provide two adequate runways. This would be leased to a town, city, or perhaps to veterans, for a yearly amount equal to 2½% interest on the cost. He called for development of sideline revenue producing businesses at existing airports to help carry the financial burden and warned that in many cases fixed base operators were paying more for their use of airports than the airlines.

Utilization of air cargo facilities to speed distribution of mail order merchandise was described by Robert W. Jackson, president, Aldens, Inc., Chicago. He said in the near future his company plans daily schedules of air freight shipments of customers' orders to Memphis and Atlanta from Chicago as a test of their facilities.

He called for more effective consolidated pickup and delivery, improved loading, storing and handling of air freight at airports, and use of planes primarily designed for air freight, not converted passenger equipment.

Plans for a survey of GI flight training rates throughout the country before presently effective flight contracts with approved schools expire June 30, 1947, were announced by N. R. Henson, Veterans Administration director of training facilities who also disclosed plans are under consideration to add a course for air transport pilot rating, to private, commercial, flight instructor, instrument rating and multi-engine rating courses now approved for veterans. He warned of heavy responsibility on state approval agencies to see that only well-qualified schools are approved.

Navy Bat, Homing Guided Missile, Is Potent Anti-Shipping Weapon

Radar guided bomb goes into routine service with air units; can be used on fighters; top speed 320 mph.

By WILLIAM KROGER

Indication that guided missiles rather than being plans for the future, are weapons of today is seen in the action of the Navy in putting into routine service the "Bat," a radar-directed homing glide bomb which is a rudimentary guided missile.

Further significance of last week's announcement by the Navy is that it points to the day not too far distant when the Bat-type of weapon will replace all orthodox bombs for use against shipping.

Three years have gone into the development of the present efficient version of the Bat that was demonstrated for the press off Manteo, N. C. The Bat was first used against Japanese shipping April 26, 1945 by two specially-trained PB-4Y Privateer squadrons and continued in experimental service for the balance of the war.

Indoctrinate Units—Chief purpose of the Navy's present move in putting the weapon into routine service is to indoctrinate all Naval units in the use of new "Buck Rogers" weapons. Compared to what is now in the laboratory or experimental stage, the Bat is obsolete. However, it is still highly efficient.

An AVIATION NEWS representative was aboard the Navy PB-4Y-2 that last week launched the demonstration flying bomb at an abandoned tanker anchored in 40-mi. wide Pamlico Sound. At 5,000 ft. altitude, and four miles from the target, the Bat was cut loose from the mother aircraft. It picked up speed and plunged through an overcast.

Through a hole in the clouds, the yellow-winged bomb was glimpsed far below, outdistancing a tracking F6F Hellcat, before clouds again hit it. Observers later reported it scored a direct hit on the water line amidships of the low-lying, 247-ft. tanker.

Speed of 320 mph.—With a four-and-a-half to one glide ratio, the Bat can be launched from as far as nine miles from the target. Its top speed is estimated as about 320 mph. It carries one 1,000-lb.

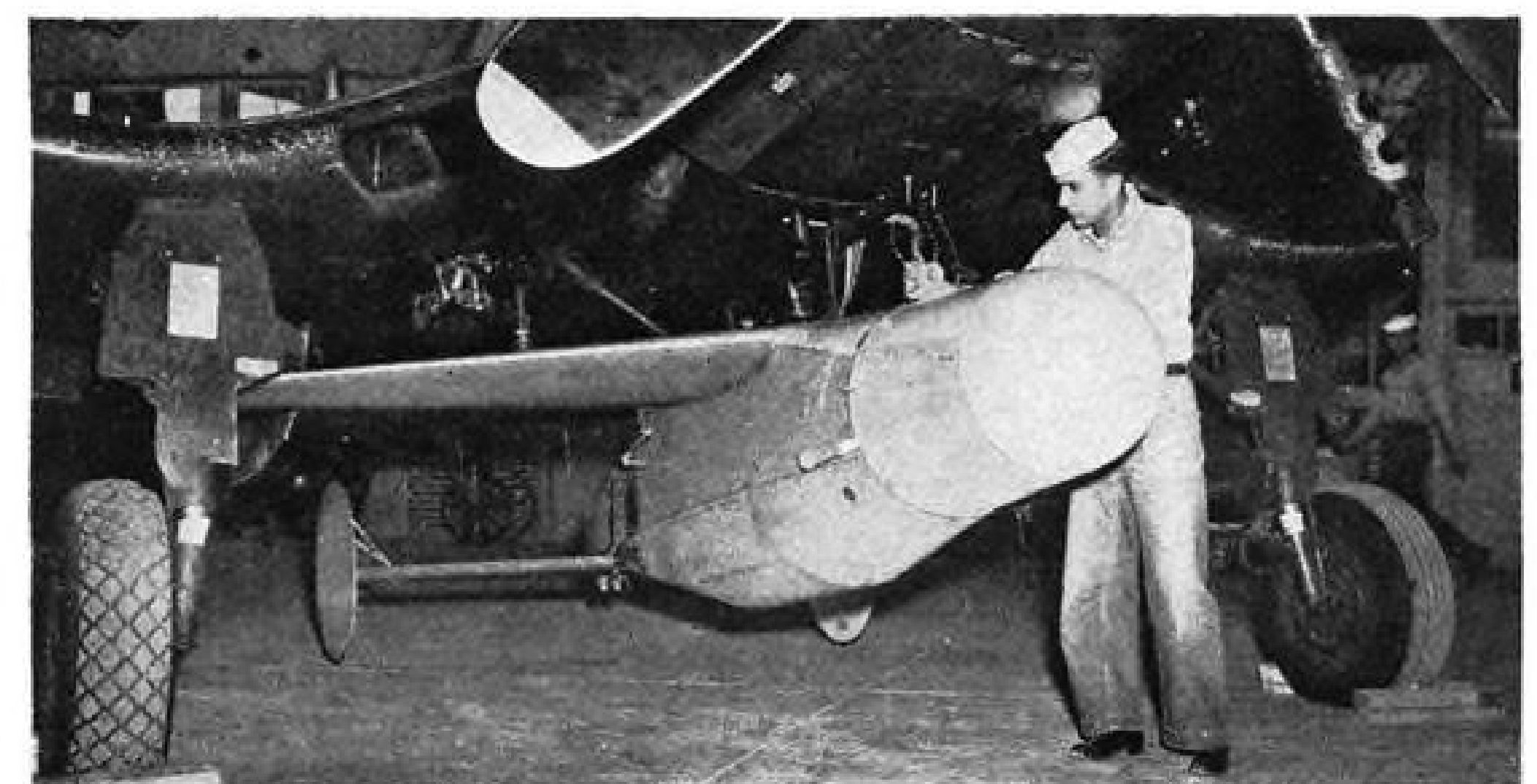
bomb or its equivalent. Only 12 ft. long with a span of 10 ft., the Bat has an extremely high wing-loading of approximately 84 lbs. per sq. ft. This is reported to be undesirable, aerodynamically speaking, but the over-all aerodynamic and control problems of the glide bomb have been so great that researchers have been able to offer little improvement in that aspect of the missile.

Its chief value, is that it enables the attacking aircraft to launch its bomb well out of range of enemy aircraft. Additionally, it is highly accurate. Naval officers who have participated in tests off Manteo declare it will be attracted to the

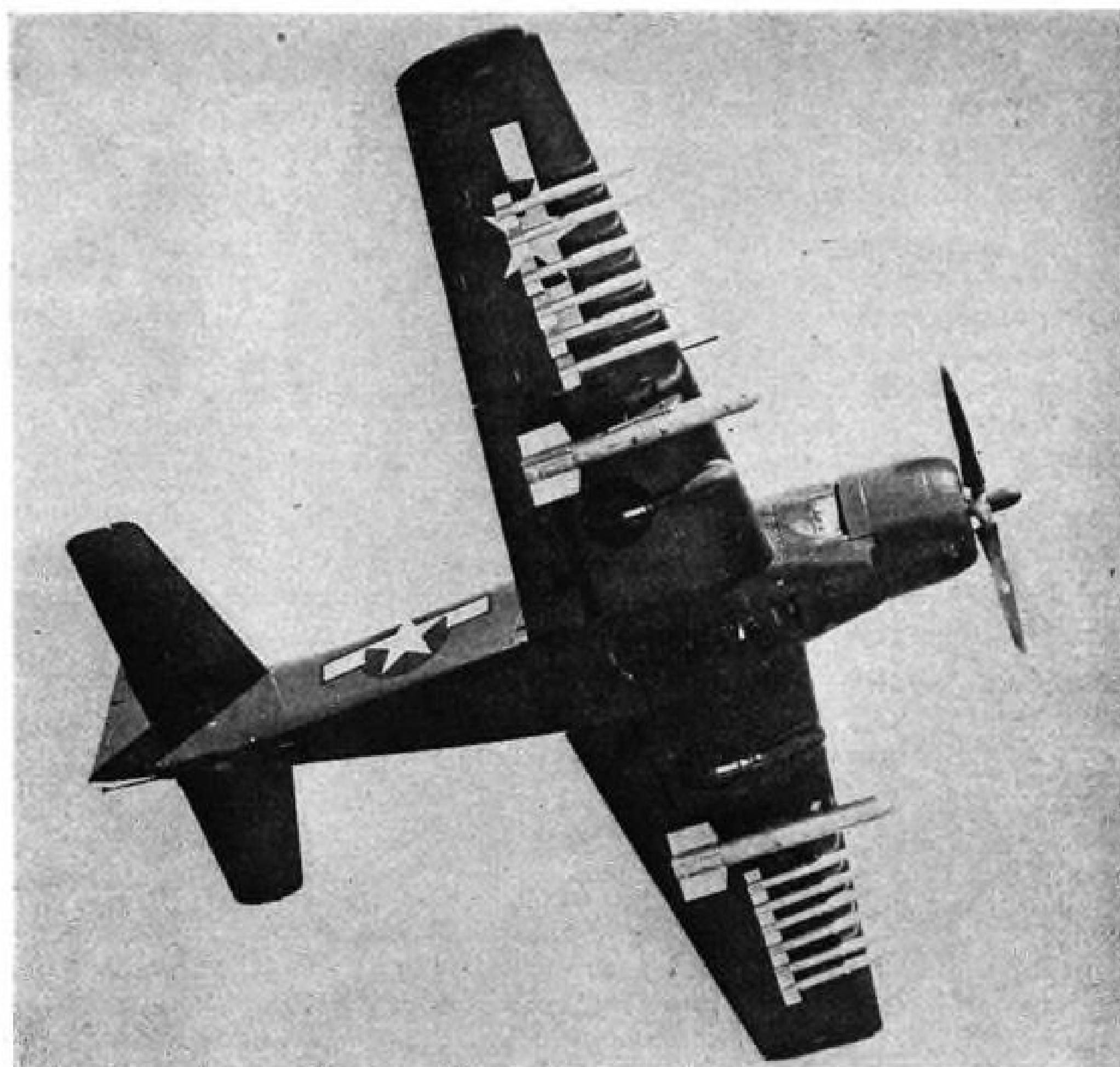
end of the hulk that contains the most steel. It can also be used against bridges and isolated buildings—anything that will provide high radar contrast.

Although designed for service with large patrol planes, the Bat is proving extremely versatile. Navy is now conducting tests, that indicate success, with Bats launched from F4U Corsairs. These fighters do not carry radar, but the pilot aims the weapon by piping in the Bat's own radar which is in the nose of the missile. After practice, a fighter pilot can line up the missile and release it in seven seconds.

Radar Umbilical—In a bombing plane, the Bat's radar pickup is piped into the mother plane's own radar sets through what the Navy calls an umbilical cord. The operator in the plane picks up the target in the radar and locks on it. At the predetermined release points, he presses a button that frees the Bat. The missile's radar is still locked on the target and it will follow it through any evasive action. The course of the Bat is



Versatility of Navy's Bat Bomb: The radar-directed glide bomb demonstrated publicly for the first time last week can be carried by a wide variety of aircraft, although it was originally conceived as a weapon for large patrol bombers such as the Privateer shown. While the Privateer carries a Bat on each wing between the outboard engines and the wingtips, the Bat-armed F4U Corsair is probably the more deadly weapon. In addition to the 1,000-lb. bomb in the Bat, the Corsair carries its usual complement of rockets and other armament so that, unlike the Privateer, it is still a dangerous aircraft after its Bat has been released. The bomb, slung under the Corsair's belly, slows the plane between 10 and 20 mph. (Press Association photos)



NAVY'S SKYRAIDER IS AIRBORNE ARSENAL:

Packing the explosive punch of a light cruiser, Navy's carrier-based AD-1 Skyraider, now in production at Douglas Aircraft's El Segundo plant, mounts 12 5-in. and two 12-in. Tiny Tim rockets. First of the new attack types, Skyraider is said to carry a 6000-lb. load of various kinds of munitions farther than any other plane of its type in service.

always in a flat glide and its maneuvers can necessarily consist of only turns in that plane.

The Bat's 12-ft. length is packed with intricate devices beginning with the radar homing set in the nose. A whirling off-center reflector picks up the returning waves, indicating whether the missile is to the right or left of the target. The impulses pass back through the radar to a gyro-pilot which transmits proper instructions to a servo unit located farther toward the tail.

The gyro is the brain, and the servo the hands of this missile. The servo actuates the elevons on the wings which changes the Bat's course. Unit nearest the tail is the 12-volt battery.

The cost of a single Bat is \$8,000.

► **Servo Tricky**—Trickiest part of the device is the servo, which was developed at the Servo-Mechanism Laboratory of the Massachusetts Institute of Technology by Dr. A. C. Hall in 1943. The latest model servo is now made by Lombard Governor Corp., near Boston.

Earlier units were manufactured by Pitney-Bowles Corp., Springfield, Mass. The radar unit is made by Western Electric Co., after being developed at M. I. T. The airframe was designed by Hunter Boyd, a civilian technician at National Bureau of Standards, and

AVIATION CALENDAR

- Oct. 19-21—Third Annual Aviaada, Las Vegas, Nev.
- Oct. 23-25—Second Annual Arizona Aviation Conference, Phoenix.
- Oct. 24-25—Institute of Aeronautical Sciences Navigation meeting—Hotel Statler, Washington, D. C.
- Oct. 29—International Air Transport Association meeting, Cairo, Egypt.
- Nov. 7-8—SAE National Fuels & Lubricants Meeting, Mayo Hotel, Tulsa, Okla.
- Nov. 15-24—National Aircraft Show, Cleveland.
- Nov. 20-22—National Aviation Trades Association convention Cleveland.
- Nov.—International Aeronautic Exhibition, Paris, France.
- Dec. 2-4—SAE National Air Transport Engineering Meeting, Edgewater Beach Hotel, Chicago.
- Dec. 12-15—International Aviation celebration, El Paso, Texas.
- Dec. 17—Anniversary dinner, Washington, D.C. Aero Club, Hotel Statler.
- Dec. 17—Wilbur Wright Memorial Lecture—Dr. Theodore Von Karman, Hotel Statler, Washington, D.C.
- Jan. 10-11-12—All American Air Maneuvers, Miami, Fla.

was made originally by the company of Eugene Vidal, former director of the Bureau of Air Commerce. Vidal's company had the process for laminating wood, of which all present Bats are made. Future models will be of metal. Airframes are now being made by Camden Eastern Marine Corp., Camden, N. J.

The Bureau of Standards coordinated the Bat project, with the Naval Bureau of Ordnance being the developing agency and with the Bureau of Aeronautics cooperating. Bats are assembled at the Naval Aviation Ordnance Test Station, Chincoteague, Va., which will be the Navy's experimental and developing base for Bat-type missiles.

Lockheed Cancels Saturn Production

Badgered by power plant difficulties and the prospect of attendant production delays which would jeopardize its market position, Lockheed Aircraft Corp. has suspended its Saturn 14-passenger light transport project.

A prototype was test flown this summer, and subsequently (AVIATION NEWS, Aug. 19), a contract for five Saturns with an option for an additional 20 was received from All American Aviation. Deliveries of the plane had been expected to start in the spring of 1947.

Taylorcraft Corp. Sues C. G. Taylor

Taylorcraft Aviation Corp., Alliance, Ohio, last week filed a \$2,000,000 damage suit in Cleveland federal district court, against C. G. Taylor, former head of the company, alleging he had made "false and untrue statements causing the firm to be embarrassed and damaged in the aviation industry."

The suit was a counter suit against one previously filed by the Alliance airplane designer against the company in Stark Co. (Ohio) common pleas court, asking \$1,000,000 damages from the company, for injury to his reputation. The injury was caused, he alleged, by the firm's "continued representation" that he was the designer of a plane constructed of "cheap and inferior materials."

Aircraft Housing Deal Moves Toward Action

Goodyear, Taylorcraft, Consolidated are entering aluminum prefab field; Douglas still considering contract.

By BLAINE STUBBLEFIELD

Aircraft plant production of prefabricated houses moved from talk toward action with announcement of plans by Goodyear, Taylorcraft, and Consolidated Vultee.

Donald Douglas is in personal contact with Wilson Wyatt of National Housing Administration and with Charles and Richard Lincoln of Lincoln Homes Corp., whose design he would use, and is a good bet for 100,000 units per year.

► **Timid on Marketing**—Aircraft companies are timid about marketing, a problem they never faced in warplane production. Douglas, Martin, and others have told Sen. Hugh B. Mitchell, a leader in the housing campaign on Capitol Hill, that they would like better sales and distribution guarantees.

Lincoln Corporation, trying to remove that obstacle, at least in the case of Douglas, has offered to assume responsibility for marketing and distribution, with no decision as yet. Other aircraft manufacturers told authorities they have facilities available to produce houses, and are willing, if terms are suitable. These are Bell, Bendix, Ryan, Kellett, Beech, and Curtiss-Wright.

Some companies, not officially named, are hoping political pressure for houses will get them

government contracts with no marketing risks. NHA's present offer, under which RFC would purchase unsold houses, guaranteeing 90% of manufacturers' costs, could leave them profitless, they say. But with some companies accepting that deal, chances of Wyatt raising the ante are slim.

► **Vitreous to Produce**—Curtiss-Wright has said it is interested only in a fully-proven house design, and in production under contract, with no distribution problem.

Chicago Vitreous Enamel Products is quoted by NHA spokesmen as definitely planning to produce prefab houses of enameled steel, at the rate of 400 a day, or 120,000 a year. Panels will be in any desired color, washable inside and out. With light steel framing Vitreous can put a non-functional pitched roof on the Lincoln design, for those who don't like flat-tops. Company plans also to produce bathroom units, cabinets, and other components, for their own houses and for aircraft-produced houses. NHA is enthused about the Vitreous line, and believes it will prod air companies to take seriously their opportunity to get into what may be big business, while the way is open.

NHA experts are telling Wyatt that a few prefab houses on exhibition at key points would be worth millions of words, and are urging him to produce them by whatever means he can. Don't be surprised if the government itself puts display units on vacant lots.

► **Muffled Chances**—Both NHA and Congressional leaders feel that prefabricators, up to now, have

Drone Missiles

On the strength of the performance of B-17's as drone (pilotless) planes at the Bikini atom bomb tests and later in the Hawaii-California flight, AAF is reported to be considering the transforming of thousands of surplus heavy bombers into drones.

Such a program would serve to give the country a huge force of guided missiles, it is pointed out, until the long-range guided missile program of the services could begin to produce in quantity. Planes under consideration are B-17's and even B-29's.

muffed their chance and missed the point, so far as present emergency is concerned. Their "crack-boxes" have prejudiced public opinion, and they have used mostly materials that belong in conventional construction-type buildings.

Sen. Mitchell, and NHA, agree that prefabs should adapt materials not previously used in houses, and that they should contribute technically to a new art of making houses in factories on production lines. Such dwellings, they say, can stay close to conventional plan, and away from eccentricity.

Goodyear will begin delivery of houses, at \$5000 to \$6500, in several weeks. Company has priorities on materials for a test lot of 26 units of their own design, and on basis of experience might shift to the Lincoln plan. Taylorcraft, long-time producer of light air-



NEW FUELING SYSTEM IN ACTION:

Advantages claimed for the new fueling system illustrated above in action at Moisant International Airport, New Orleans, are speed, safety and ease of handling. Installed by Standard Oil of New Jersey, the method features use of a light truck to pump fuel to the plane from remote storage tanks, which it taps through a valve box on the airport apron. Connection with the valve box (at left in picture) is

with a drip-proof quick coupling. Average delivery of about 1,400 gal. to a large transport plane can be made in seven minutes. Maneuverability of the truck, called "Essofueler," cuts time needed to get into position for fueling. Only about 30 gal. of fuel are above ground at one time, compared with 1,000 to 4,000 by tank truck method. Planning similar installations are Wright Field, Idlewild, and Gander.

planes, hopes to build 15,000 homes of steel or aluminum in 1947.

► **Plan \$7,000 Unit**—Harry Woodhead, Consolidated Vultee president, said his plant at Downey, Calif., is hand-building a unit to sell at around \$7000, and will produce at 80 to 100 houses per day by next spring, if NHA can guarantee a flow of materials and a market. Reginald S. Fleet, Consolidated official, has been in Washington, negotiating with Wyatt.

Douglas is raising questions about distribution, guarantees, quantity of production, factory expansion, labor union cooperation, interference with aircraft production, etc., but NHA is convinced he would spend so much time only on a pretty sure thing.

Fuller Houses, Inc., Wichita, is reported by Chamber of Commerce there as having a letter of intent from NHA, guaranteeing market for 10,000 units, equal to a \$65,000,000 order. But Fuller, facing problems of engineering, management, financing, materials, etc., seems on the point of moving to some other city seeking better community support.

Herman Wolf, Chamber president, said Beech Aircraft, which considered building a Fuller prototype house, would furnish parts even if Fuller goes into business elsewhere.

CAA Is Training GCA Technicians for Three Fields

Twenty-one CAA instrument landing technicians were en route to the West Coast last week for training in the use of Ground Control Approach radar landing system which CAA will install at

Washington National, Chicago Municipal and LaGuardia airports and put into service on Jan. 1.

Fifteen of the men will be trained as operators at AAF's March Field, the other six will be instructed in maintenance by the manufacturers of the GCA sets, Gilfillan Bros., Los Angeles. Fourteen of the men are from CAA Region I, which embraces Washington and New York and the others are from Region III which includes Chicago.

The Army is making the three GCA systems available to CAA and the Air Transport Association is paying for the cost of installation. The three sets are now being revised by Gilfillan. The radar screens of the systems will be remoted into the control towers.

Safety Bureau Holds Accident Parley

Pilots and airlines are summoned to discuss safety problems and their solution after series of airline mishaps.

CAB's Safety Bureau, concerned with the recent succession of airline accidents, called representatives of pilots and the airlines to Washington Friday for a discussion of safety problems, and measures the bureau will insist on to accomplish their solution.

Prior to the closed meeting, to which CAB summoned men from the Air Line Pilots Association and operations Division of Air Transport Association, the prediction was made that it would be a "hair down, table banging" session.

The bureau feels that all of the

four accidents that occurred within nine days in the first part of this month are in the preventable category, though investigations have not been completed on the entire series. They included accidents involving an American Overseas Airlines DC-4 in which 39 were killed at Stephensville, Newfoundland, Oct. 3; a United Airlines DC-4 in which two lost their lives at Cheyenne, Wyo., Oct. 8; an Eastern Air Lines DC-4, carrying 26, near Alexandria, Va., Oct. 12, in which no one was killed, and a TWA Constellation at New Castle, Del., Oct. 12, from which eight crew members ferrying the plane, which carried no passengers, escaped unhurt. Aircraft was destroyed in each instance. The bureau's aim in calling the meeting was succinct and pointed: the elimination of avoidable accidents. Some of the problems: whether the same minimums should apply to four-engine craft as to twin-engine; whether training programs provide enough transitional training in operation of larger equipment; whether maintenance is sufficient and maintenance crews are adequately staffed.

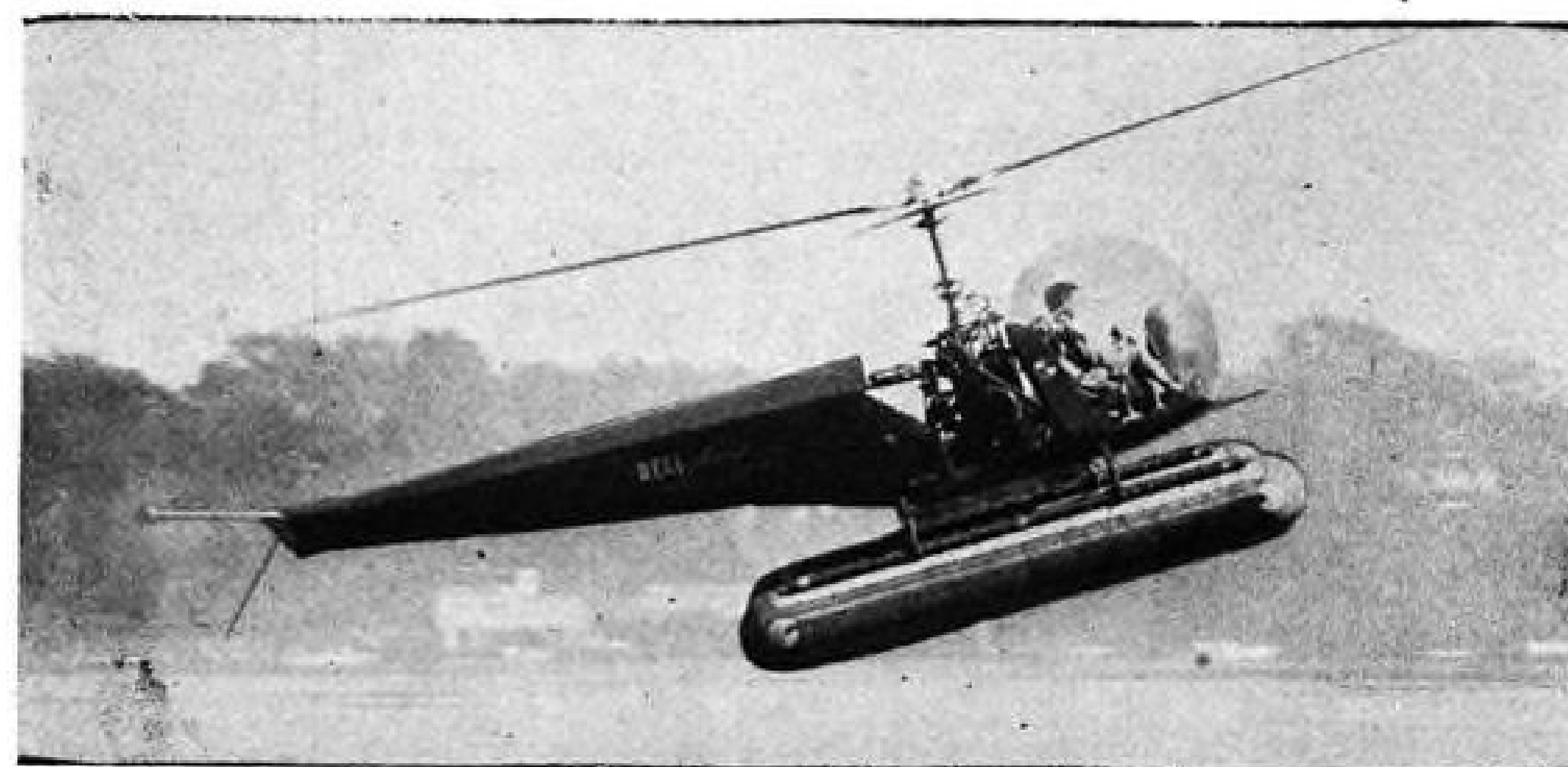
The meeting will be followed with further sessions in about two weeks with pilots and the airlines to check on results of last week's discussions.

Float Helicopter Gets CAA Certificate

CAA has granted Bell Aircraft Corp. the first approved type certificate for a float-equipped helicopter, covering an aircraft which appears substantially different from the previously-approved Bell Model 47.

Immediate purpose of obtaining a certificate for a float helicopter, Bell states, is to increase utility and safety during the current survey of potential mining areas being made in Canada. The survey is now probing deep in the bush country where there is little open, solid ground, but many lakes and large areas of muskeg. Bell indicates, however, that it has plans for other uses of float 'copters.

The company expects that the float-equipped craft will prove so advantageous that the majority of its output will be so mounted. Some company engineers are discussing the possibility of making floats with small retractable wheels standard equipment of helicopters.



First Float 'Copter with NC: CAA has granted Bell Aircraft the first NC license for a helicopter equipped with floats. License, issued October 5, is expected by Bell to result in greater success for several projected utilizations of its helicopters, one of which is the Lundberg-Ryan geophysical survey of potential mining properties in Canadian bush country where lakes provide only landing space.

SPECIAL AIR SERVICES

CHARTER

NON SCHEDULED

INTRASTATE

Nonscheduled Carriers Eye Profits From Overseas Charter Operation

POA, Waterman making money on UNRRA flights to Europe and Asia as transport bottleneck on Atlantic offers bonanza.

By CHARLES L. ADAMS

The widening scope of profitable contract and nonscheduled flights across the Atlantic and Pacific by Waterman Airlines and Pacific Overseas Airlines has focused the mouthwatering attention of other uncertificated carriers on long-range overseas operations that apparently will remain out of reach.

Deficit-hardened operators, as well as newcomers to the industry, were amazed last summer at the revelation that POA had cleared \$42,400 net profit in nine weeks on four roundtrips between the West Coast and Shanghai for UNRRA. Interest in overseas flights was further heightened by Waterman's recent announcement (AVIATION NEWS, Oct. 14) that it made \$18,683 on nonscheduled runs to London, Hawaii, San Juan and other points over a two-month period. Each carrier used a single DC-4.

► **Opportunities Excellent** — From the standpoint of pent-up passenger demand and the inability of the scheduled airlines to meet it, opportunities for profitable nonscheduled and contract flights between the U. S. and Europe appear unexcelled. The shipping strikes, delay in putting ocean liners in service, grounding of the Constellations last summer, and the insistence of thousands of persons who travelled to Europe in the face of warnings have combined to create the worst west-bound bottleneck in the history of trans-Atlantic travel.

Every berth on every ship and every seat on every plane is reportedly booked until January. Pan American Airways currently has 5,000 applications in addition to 7,000 confirmed reservations for passage from London to New York.

American Overseas Airlines, BOAC and other carriers are similarly swamped, and many frantic travelers are reported prepared to pay black-market rates for air transportation.

► **Few Have Equipment** — But whatever the rewards, it appears that few uncertificated lines are now in a position to move into the ostensibly-greener pastures of trans-ocean operations in the manner that many swarmed into the lush New York-Miami traffic last winter. Suitable four-engine equipment is available to only a very few. How long such overseas operations could continue is also a question in view of CAB's pending action on proposed Amendment No. 3, Section 292.1 of the Economic Regulations, which limits the nonscheduled exemption to flights between the U. S. on the one hand and Alaska, Canada and Mexico on the other.

Latest developments in uncertificated overseas operations to attract industry attention are Waterman's contract with UNRRA for three trans-Atlantic flights and the company's negotiations for two more. First run was Oct. 7, when 14,440 vials of penicillin were flown to London for trans-shipment to Italy and 40 UNRRA workers were brought back to the U. S.

► **UNRRA Flights** — Second flight, scheduled last week, and the third flight, set for this week, are from Washington to Frankfurt, Germany, where more UNRRA personnel will be picked up for return to the U. S. Fourth and fifth trips, if approved, are destined for Rome and Athens, respectively.

In another UNRRA charter trip, Pacific Overseas early this month flew an emergency planeload of 88,740 vials of anti-cholera vac-

cine from Cleveland to Shanghai. The trip was made via Alaska, the Aleutians and Japan.

UNRRA has flown about 200,000 lb. of cargo overseas during the first nine months of this year, with Veterans' Air Express Co., Newark, being the only other uncertificated U. S. carrier participating in the business besides Waterman and POA. The relief agency has asked all interested carriers to contact its Division of Ocean Shipping in Washington to make bids on future overseas air cargo shipments, which will continue to Europe at least through Dec. 31 and to China through March.

Additional contracts for transportation of UNRRA workers may be in prospect since it is cheaper to charter special overseas flights to return the personnel than to pay the employees' salaries and expenses indefinitely while they wait for other transportation.

► **Favor Nonschedules** — UNRRA officials are favorably disposed toward using the facilities of uncertificated carriers, some of them indicating that these operators have proved more satisfactory than the certificated overseas airlines. It is pointed out, for example, that Veterans' Air Express, in carrying loads of hatching eggs to Prague, Czechoslovakia, last spring, had a 5 percent breakage. By comparison, a certificated airline, making similar runs with egg cargoes, had a 40 percent breakage.



TIRES FOR GUATEMALA:

Packaging and stowage problems involved in this shipment of 215 Firestone tires to Guatemala were reduced to a minimum, judging from this scene showing loading of a U. S. Airlines C-47. The 7,000-lb. cargo was carried from Akron to St. Petersburg, Fla., by U. S. and trans-shipped across the Gulf of Mexico via Latin-American Airways.



BOMBER FLIES TRADE ROUTES:

With a surplus Douglas B-18A medium bomber (above) already in service, Air Trading Corp., New York export and import firm, is seeking type certification of nine Grumman Avenger torpedo bombers as additions to its cargo fleet. The Avengers, as modified, would carry up to a 6,000-lb. payload. ATC, which was incorporated less than a year ago, emphasizes that it is not a contract or nonscheduled operator but a trading house which decided to use planes instead of surface transportation in its commercial activities. The company will operate in North, Central and South America and hopes to acquire DC-4 equipment. Girard B. Henderson is president of the firm, and Richard Steves is vice-president. (Martin and Kelman photo.)

Competition Stiffer On San Juan Route

Nonscheduled carriers losing traffic to Puerto Rico as certificated airlines begin DC-4 service.

Uncertificated carriers operating between the U. S. and Puerto Rico have captured the bulk of air passenger traffic between these points and spotlighted the tremendous increase in postwar demand for service compared to prewar levels.

It seems doubtful, however, that nonscheduled operators, using DC-3s almost entirely, can hold the top position they acquired when the scheduled lines lacked equipment or had not yet activated newly-authorized Caribbean routes. Pan American Airways is offering increased nonstop schedules from New York to San Juan with four-engine equipment, while Eastern Air Lines brought in new DC-4 competition when it inaugurated its New York-Miami-San Juan run last month.

C & S Has Route—Additional inroads on the uncertificated carriers' Puerto Rican business will be made by Chicago and Southern Air Lines when it opens its New Orleans-San Juan route and by foreign operators.

A study made by Waterman Airlines shows that nonscheduled operators alone during the summer flew more passengers to and from

Puerto Rico in a single month than Pan American carried during all of 1941, when it was the only airline serving the U. S.-San Juan route. PAA in 1941 flew 4,182 passengers in and out of the territory; while some 20 nonscheduled or contract operators carried 6,289 passengers in June, 5,819 in July and 4,908 in August of this year.

On a single day (Aug. 28), 17 nonscheduled carriers operated 37 trips to San Juan; American Air Export and Import Co. and Caribe Airways, five trips each; Cruisair, four trips; Air Freight, Inc., Skyways and Puerto Rico Air Transport Co., three trips; Trans-Tropic Airlines, Trans-Caribbean Air Cargo Lines and Universal Airlines, two trips; and Argonaut Airways, Intercontinental Air Transport Co., Skyline, Inc., Trans-Luxury Airlines, Waterman, Willis Air Service, Winged Cargo, Inc., and Miami Airlines, one trip each.

Ratio Decreasing—Whereas the nonscheduled operators flying into Puerto Rico carried three times as many passengers in June as the scheduled airlines—6,283 to 2,020—the picture changed rapidly in the next two months. In July the uncertificated carriers flew 5,819 against 2,695 for the certificated lines—a two-to-one ratio—and in August the certificated carriers had almost drawn even—flying 4,406 passengers against 4,908 for their nonscheduled competitors.

Hensel Wants Free Freight Competition

Calling for free competition in the development of the airfreight industry, H. Struve Hensel, former Assistant Secretary of the Navy and currently general counsel of the Independent Airfreight Association, last week urged certificated passenger lines entering the airfreight field to make the move without benefit of government subsidy and without impairment of passenger service.

Hensel told a meeting of the Fourth National Aviation Clinic at Oklahoma City that economic regulation of airfreight operations will not be possible until the industry gains a common carrier status. He suggested a three-plank platform for governmental regulation: (a) maximum competition practicable without developing destructive practices; (b) special airfreight certificates for all operators in the industry; and (c) flexibility in the regulatory pattern until sufficient experience is accumulated to make certain of the most suitable practices and procedures.

The IAA counsel declared that if the certificated passenger airlines wish to enter the freight field they should not be permitted to charge against mail pay any losses suffered in cargo operations. He said that every certificated passenger carrier should also show CAB that its entrance into the cargo field will not lessen its ability and desire to develop its passenger traffic.

Passenger Service

Winged Cargo, Inc., Philadelphia (AVIATION NEWS, Aug. 19), has established a passenger division, "Winged America," which will operate from Northeast Philadelphia airport to the Bahamas, Puerto Rico, Jamaica and other West Indian points, according to Col. Fred P. Dollenberg, president.

Winged America will utilize five DC-3s and one DC-4, with additional four-engine equipment in prospect. Winged Cargo is now using four C-47s and intends to have a fleet of six in operation within several months.

Air Freight Hearing

Hearing in the air freight case (Docket 810 et al.) will be held in the Hotel Texas, Fort Worth, beginning Nov. 13, CAB has announced.



"Esso Aviation Products and Service are Good!"

says H. L. Sessler, Beckley-Mt. Hope Municipal Airport, Beckley, W. Va.

H. L. Sessler has played a part in aviation development for sixteen years. At present he is owner-manager of the Beckley-Mt. Hope Municipal Airport, and also operates a freight line between Beckley and Baltimore, and a passenger route between Beckley and Miami.

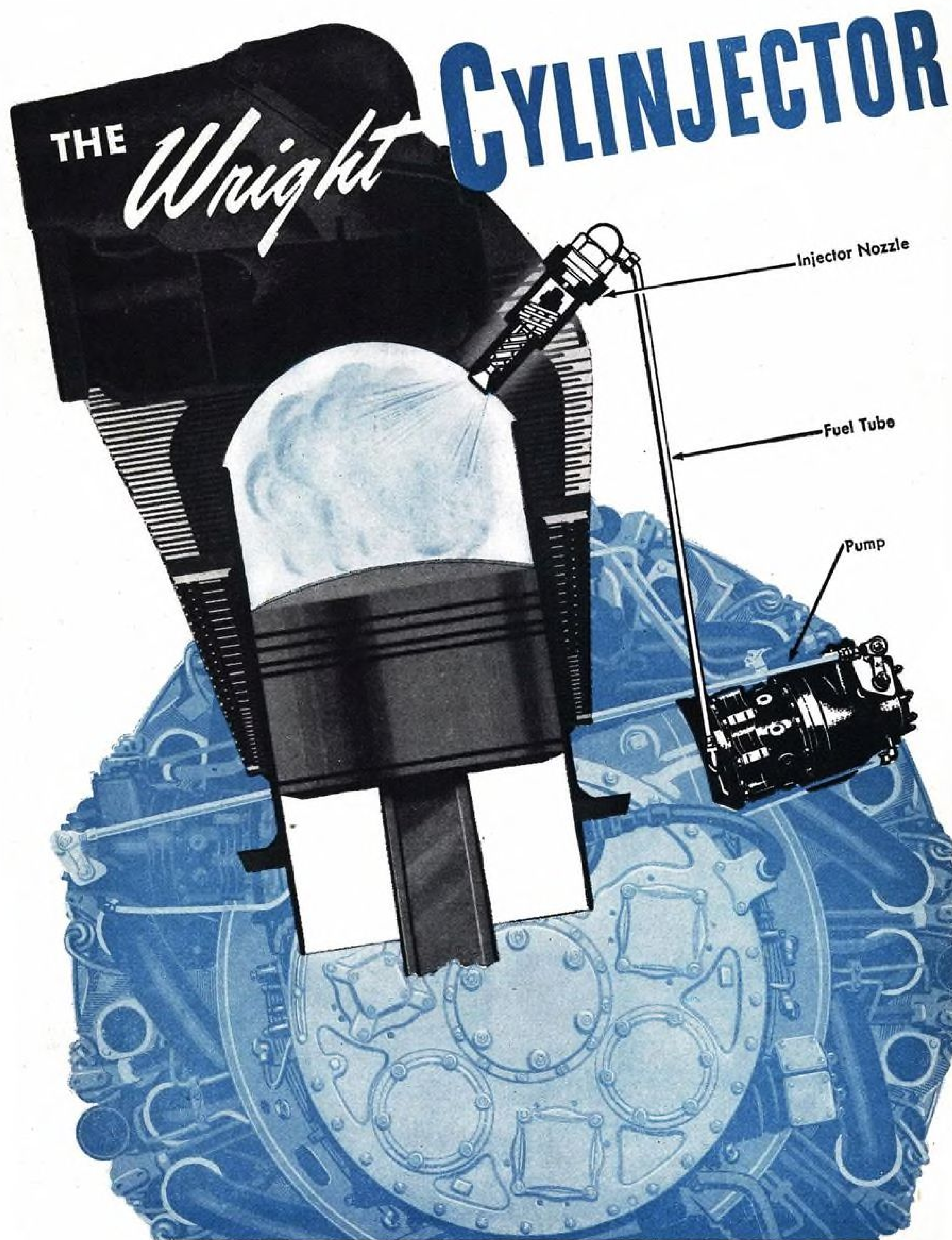
He has this to say about Esso Aviation Products: "We, of the Beckley-Mt. Hope Airport, use Esso Aviation Products because, in our opinion, they are good! Since using Esso, our maintenance costs have been materially reduced and performance of planes has been extremely satisfactory."

Quality is a byword with Esso Aviation Products backed by experience dating from the Wright Brothers' first flight—over 40 years ago. It means profits and friends for Esso Aviation Dealers and Happy Flying for Esso users.

MR. AIRCRAFT OWNER: For ready reference keep this list in your map case.

Esso Aviation Products are on sale at the following airports in the West Virginia area. Beckley-Mt. Hope Airport, Beckley; Benedum Airport, Clarksburg; Bollinger Airport, Charleston; Boone's Field, Ronceverte; Clark's Field, Winfield; Fayette Airport, Oak Hill; Glendale Airport, Glendale; Herron Airport, New Cumberland; Hinton Airport, Hinton; Huntington Flying Service (seaplane), Huntington; Kanawha Flying School (seaplane base), Charleston; Lewis Airport, Buckhannon; Parkersburg-Wood County Airport, Parkersburg; Princeton Municipal Airport, Princeton; Ravenswood Municipal Airport, Ravenswood; Roane County Airport, Spencer; Simpson Air Park, Philippi; South Charleston Seaplane Base, South Charleston; Wheeling Seaplane Base, Wheeling; Wheeler Weikel Airport, Crawley.





Sets New Performance and Safety Standards

DEVELOPED by Wright and first used in long-range military operations, fuel injection now offers improved economy and efficiency for commercial installations of the Cyclone 18. The Cylinjector, as its name implies, meters fuel directly into the combustion chambers, maintaining uniform mixture distribution to all cylinders.

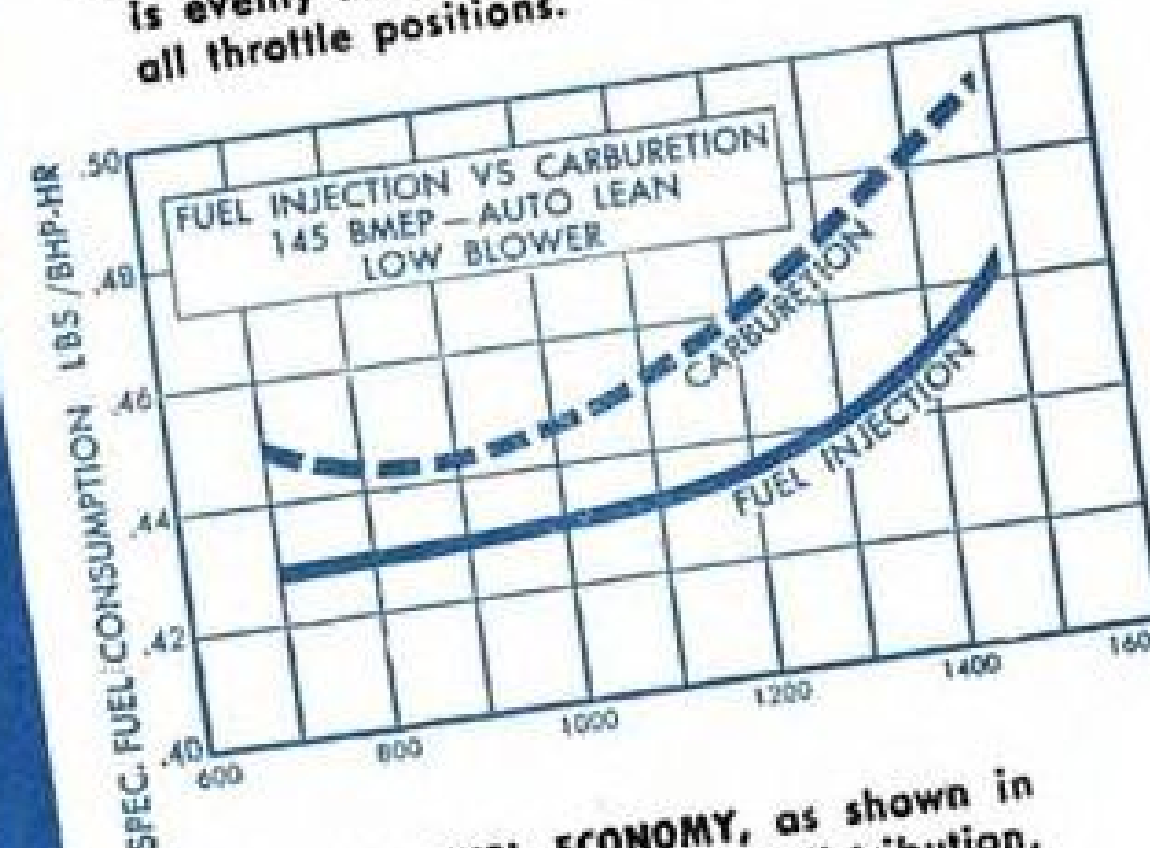
The Cylinjector insures smooth power, and provides a bonus of operating revenue through better economy. As there is no fuel in the induction passages to cause vaporization icing, heating systems can be lighter. Starting and acceleration are both improved. The engine operates equally well with either high or low volatility fuel because the charge is atomized by injection.

The Wright Cylinjector consists of a spring-loaded poppet valve in each cylinder, with fuel tube-fed in firing order by cam-actuated pressure pumps. In designing for reliable operation and low maintenance, Wright engineers have again added to the long list of economies which engines of the Cyclone series offer the commercial operator.

WRIGHT
AERONAUTICAL CORPORATION
Wood-Ridge, N. J.

POWER FOR AIR PROGRESS

IMPROVED MIXTURE DISTRIBUTION. Fuel is evenly metered to all cylinders at all throttle positions.



IMPROVED FUEL ECONOMY, as shown in the curve above. Even distribution, with no lean cylinders to influence the mixture setting, reflects in better range and payload.

IMPROVED STABILITY AND SMOOTHNESS, at all mixture settings, from precision metering and vaporization of the fuel.



IMPROVED COOLING, as shown in the curve above. Drag is reduced materially, as cowl flap settings need not be governed by a single lean cylinder.

IMPROVED STARTING AND ACCELERATION because the fuel charge is atomized by injection.

INDUCTION ICING ELIMINATED. No fuel is vaporized in the induction system to cause a temperature drop.



DIVISION OF
CURTISS-WRIGHT
FIRST IN FLIGHT

PRODUCTION

Pacific Airmotive Expanding Facilities

Anticipate \$6,000,000 business for year ending Nov. 30, as airline customers increase.

Looking forward to a gross business of nearly \$6,000,000 in the fiscal year ending Nov. 30, Pacific Airmotive Corp. now boasts that it is the largest engine, propeller and accessories overhaul and sales organization in the aviation industry.

In the space of one hectic year it has become entrenched with plants and service facilities in ten Western cities, has moved Eastward as far as Kansas City, is eyeing East Coast markets with more than speculative consideration, and is making overtures to major foreign airlines for their overhaul and maintenance business.

► **No Surprise**—To Earl Herring, P.A.C.'s coolly calculating president, this will be no more than the result he anticipated from the speculative plunge he took in 1940. While president of Kinner Motors he organized a group which bought P.A.C. from Bendix Aviation, owner of the property since 1937.

To Union Oil Co., about which

Herring painted a rosy picture of a foot in the door of aviation, the forthcoming financial report should be highly satisfactory. Union's stockholders will learn that they have become controlling owners of a major and healthy aviation enterprise.

From a speculative supporting investment in P.A.C. stock in Feb. 1945, Union Oil has increased its holdings from 42% to 53% of 650,000 Pacific Airmotive shares.

Present indications are that P.A.C., capitalizing on its experience gained from military engine overhaul contracts during the war, will try to capture the engine overhaul business of many major airlines and will venture more and more deeply into the field of personal aircraft maintenance and overhaul.

► **Panam Contract**—Samples of this trend are Pan American's recently-signed contract for the overhaul of all Pacific-Alaska division engines at P.A.C.'s new engine overhaul plant at Oakland Airport, a Los Angeles contract to overhaul at Burbank the engines of DC-4s bought by Peruvian International Airways, and development of an exchange engine overhaul plan for small plane owners.

Airline customers of P.A.C. engine overhaul and modification

services include United, K.L.M., TWA, Delta, Empire, Pacific, National Skyway Freight, Fireball Air Express, Southwest Airways, California Eastern, Western, and Matson.

To foreign airlines, such as Air France and Iberian Airways, a groundwork for future overhaul business is being laid by P.A.C.'s invitation to send key maintenance personnel to its plants at Burbank and Oakland for training in the upkeep of American engines and accessories.

► **Make Test Benches**—More than smart salesmanship is behind the expansion of this company, which operates from headquarters in Glendale, Cal., and facilities in Burbank, North Hollywood, San Diego, Fresno, San Jose, Oakland, Kansas City, Seattle, and Anchorage, Alaska.

Herring, even before interesting Union Oil in the company, began studies of service and maintenance facilities which P.A.C. might buy at locations showing greatest promise of early post-war aviation growth. He also gave the go-ahead signal to the North Hollywood factory of Airplane Manufacturing & Supply Corp., a P.A.C. property, in the design and production of propeller, generator, hydraulic, pump, magneto, starter and carburetor test benches that would outfit its expanding overhaul plants.

AAF Plans Storage of Vital Machine Tools

Filling in another chink in its industrial preparedness plans, AAF's Air Materiel Command at Wright Field is formulating plans for storage of a reserve of 12,500 machine tools.

This program of stockpiling critical general purpose tools ties in closely with the plan outlined by Maj. Gen. E. M. Powers, chief of materiel, before the recent meeting of the Society of Automotive Engineers in Los Angeles (AVIATION NEWS, Oct. 14), for pilot lines in peace of special tooling.

In event of another emergency, the most pressing need would be rapid expansion of special tooling from the pilot lines on the basis of the production experience built up in peace time. A ready reserve of general purpose tools would enable the machine tool industry to concentrate on the special types.

Just before the end of the war, according to the Materiel Command, there were about 1,700,000 machine tools in the U. S., of which 60,000 were owned by the Government. Indicating how great becomes the need of tooling in wartime, AMC states that in 1937 the tool industry had a volume of \$195,000,000. By 1942, this had been boosted to \$1,333,000,000.

AAF now estimates that in the first year of any future mobilization, its tool needs would be about \$300,000,000.

Two years' ago, Wright Field made a study of tooling needs to determine how many of each type of tool would be required to reach a certain production rate within a given period of time. Now, AMC personnel are poking through plants, depots and War Assets Administration warehouses in search of the tools that meet the standards decided upon in 1944.

When the tools have been selected, they will be shipped to a strategically - located warehouse and treated for long-term storage. Constant maintenance and a daily check will be undertaken.

Plan Modified B-17s For Water Landings

Curtiss-Wright Corp.'s airplane division at Columbus, Ohio, has been awarded an AAF contract to modify ten B-17 bombers to be used in test landings on water.



ERCOUPE NEST:

Plant of Engineering & Research Corp., Riverdale, Md., makers of the two-place Erco Coupe, two-control personal plane. E&R was one of the first aircraft firms to buy its wartime plant from the Government, acquiring this factory where it did Navy work during the war more than a year ago.

Program will take two years to complete as each plane will be prepared in a different way.

Purpose of the contract and the tests in ditching is to correlate information gained from tests with model, with information growing from experiments in actual ditching of full-scale planes. It is hoped that sufficient knowledge will be obtained to enable AAF in the future to predetermine the ditching qualities of aircraft.

C-W will reinforce certain parts of the B-17s structure, as well as removing unnecessary equipment and installing water-tight recording equipment. Results of the tests on each plane will determine the

modifications to be made on the following test plane.

This latest contract is another in a series of miscellaneous production jobs undertaken at Columbus by Curtiss-Wright to keep both its production facilities and workers in use. One of the major contracts recently obtained in this program is for assemblies and parts for Republic Aviation's AAF planes, P-84 and Rainbow.

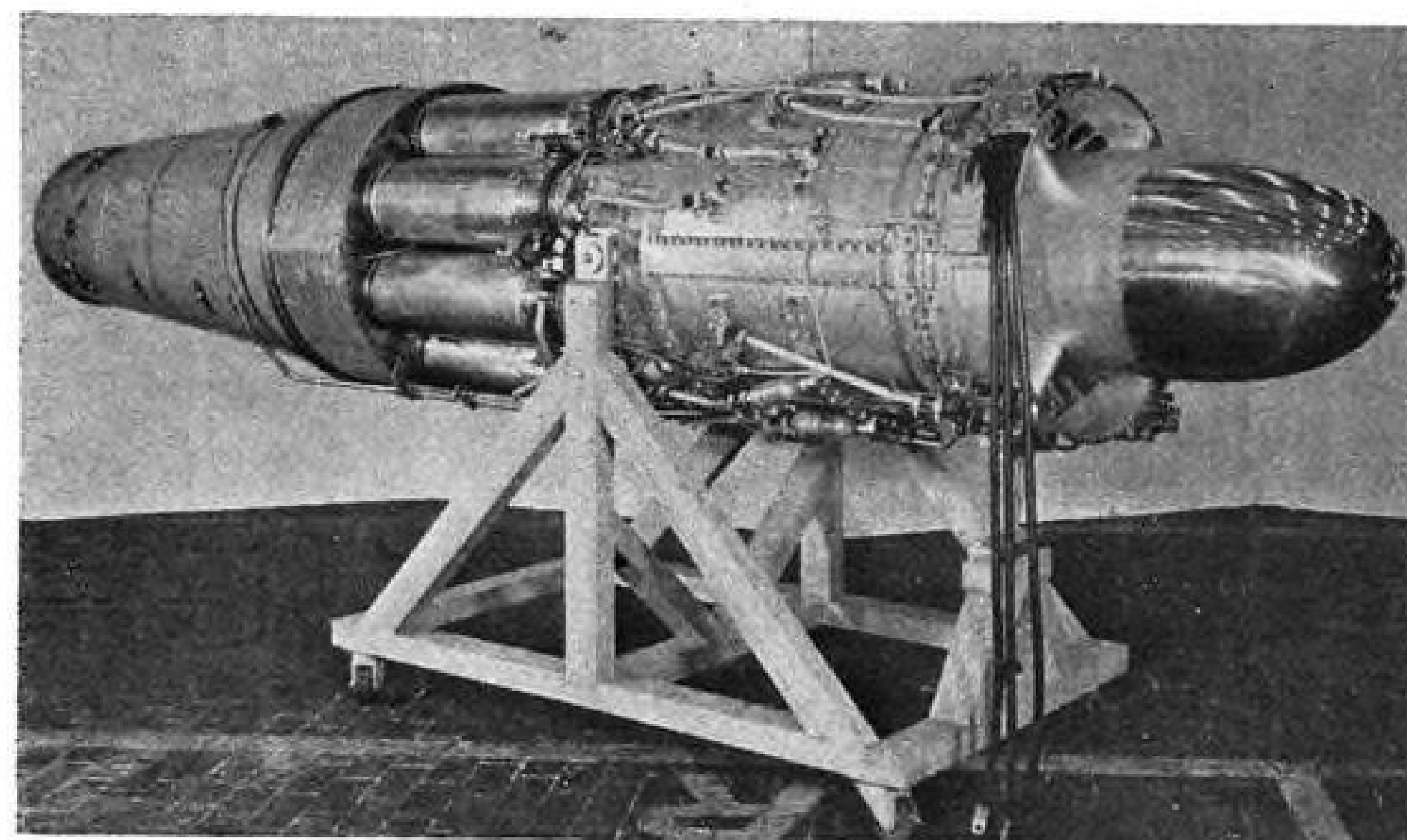
The Columbus plant will produce elevators, rudders, stabilizers, fins and other parts for the P-84, and wing panels, fuselage aft sections, stabilizers, rudders, fins, elevators, ailerons, flaps, engine mounts and nacelles for the Rainbow. Deliveries are scheduled to start late this year, and peak production is expected to be achieved late in 1947. C-W estimates it will employ more than 500 additional workers to fulfill the Republic contract.

Plan Reorganization

Petition for reorganization of the Laister-Kauffman Aircraft Corp. under the Federal Bankruptcy Act has been filed in U. S. District Court, St. Louis, Mo.

The company's petition listed assets exceeding liabilities by \$169,161. Assets total \$1,288,400 and include \$988,036 in claims against the Government, \$13,438 in cash in banks, and \$121,449 in accounts receivable. Liabilities include \$434,157 in notes and loans and \$336,224 in accounts and wages payable.

The company produced \$15,000,000 worth of cargo gliders and aircraft parts during the war.



THUNDERJET POWER:

A new photo of the TG-180 jet engine used in the Republic P-84 fighter. Reported to be the most powerful engine at high speeds now in use, the TG-180 (designated by AAF as J-35), was designed by Alan Howard, assistant design engineer of the turbine-generator engineering division of General Electric Co., and is being produced for AAF by both GE and Allison division of General Motors.



FIREBALL FIX-UP:

Ryan Aeronautical's final assembly building, little used since end-of-the-war cancellations, has been put back into use by the company in fulfilling a \$200,000 Navy contract for modification of Fireball combination jet and reciprocating engine fighters. Fireballs shown on the line are being given new armament installations and having other changes made preparatory to going into service on carriers.

THIS *Silver-Brazed* BOND

GIVES EXTRA STAMINA

Armature-coil terminal

Commutator riser

TO G-E AIRCRAFT GENERATORS

An exclusive feature of G-E aircraft generators is the silver-brazed bond that joins the armature windings to the commutator. This feature permits the generator to take short-time overloads which would normally cause failure in a tin-soldered commutator.

In other words, one of the chief causes of heat failure has now been effectively eliminated. G-E generators can thus be made smaller and lighter without fear of damage from overheating. Shop time for generator repair and overhaul is reduced. The over-all service life of each unit is considerably lengthened.

Silver-brazing of vital connections is typical of the *extra* care that goes into the manufacture of G-E aircraft generators. For example, armature and stator are protected against severe operating stresses, temperature extremes, and electrical losses by these additional construction strong points.

GLASS INSULATION

Used throughout to add greater resistance to overheating. An insulated coating on the armature punchings means low core losses. Slots are cushioned with strands of glass fibre.

FORMEX* WINDINGS

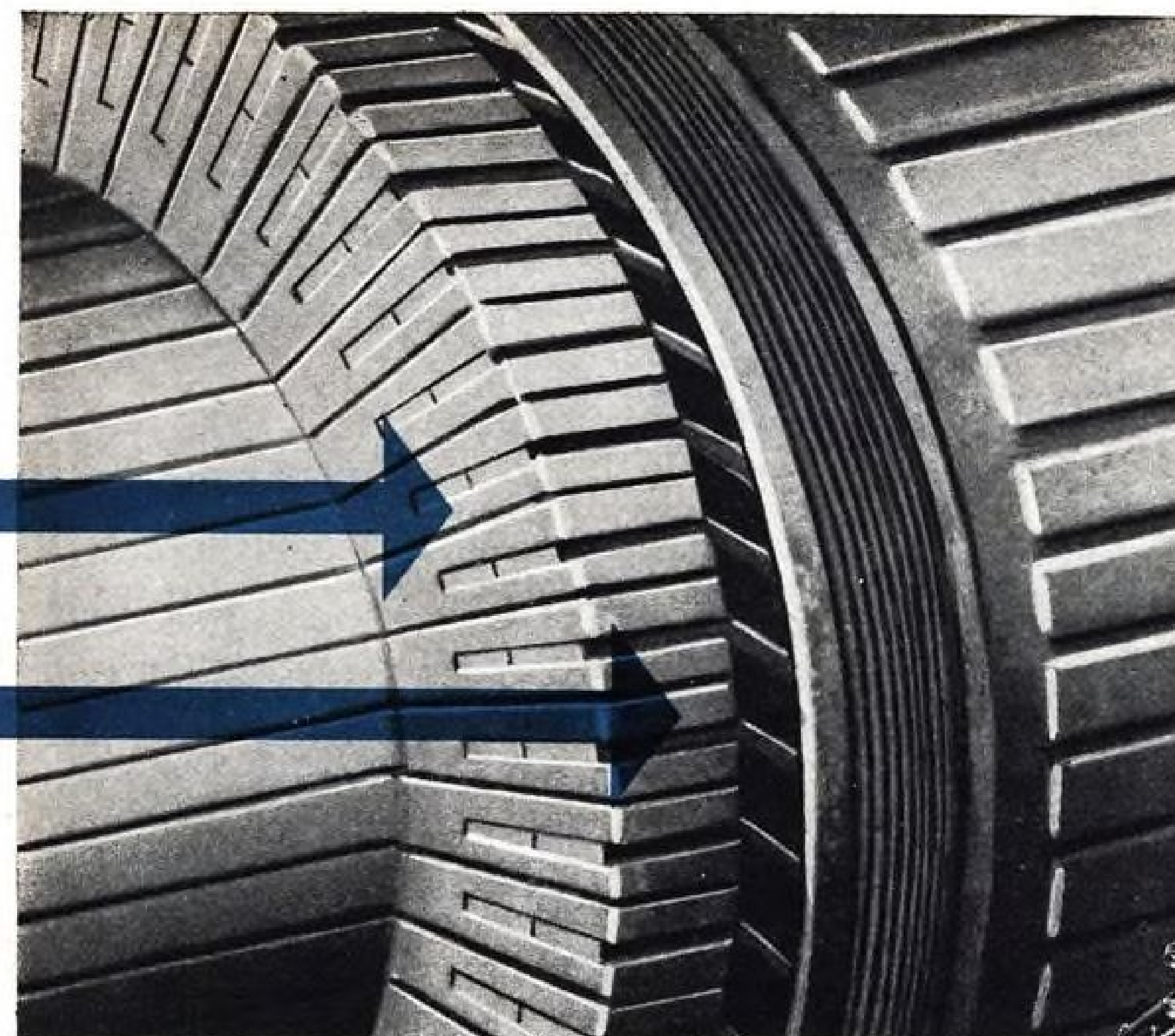
Armature and field coils are made with space-saving Formex wire, famed for its resistance to high temperatures, moisture, and corrosion. High-strength building wire firmly binds all windings.

SPARKLESS COMMUTATION

Compensated, interpole shunt-field windings assure sparkless commutation at all loads and speeds within the generator's rating and at high altitudes. Brush maintenance is kept to a minimum.

*Trade-mark reg. U.S. Pat. Off.

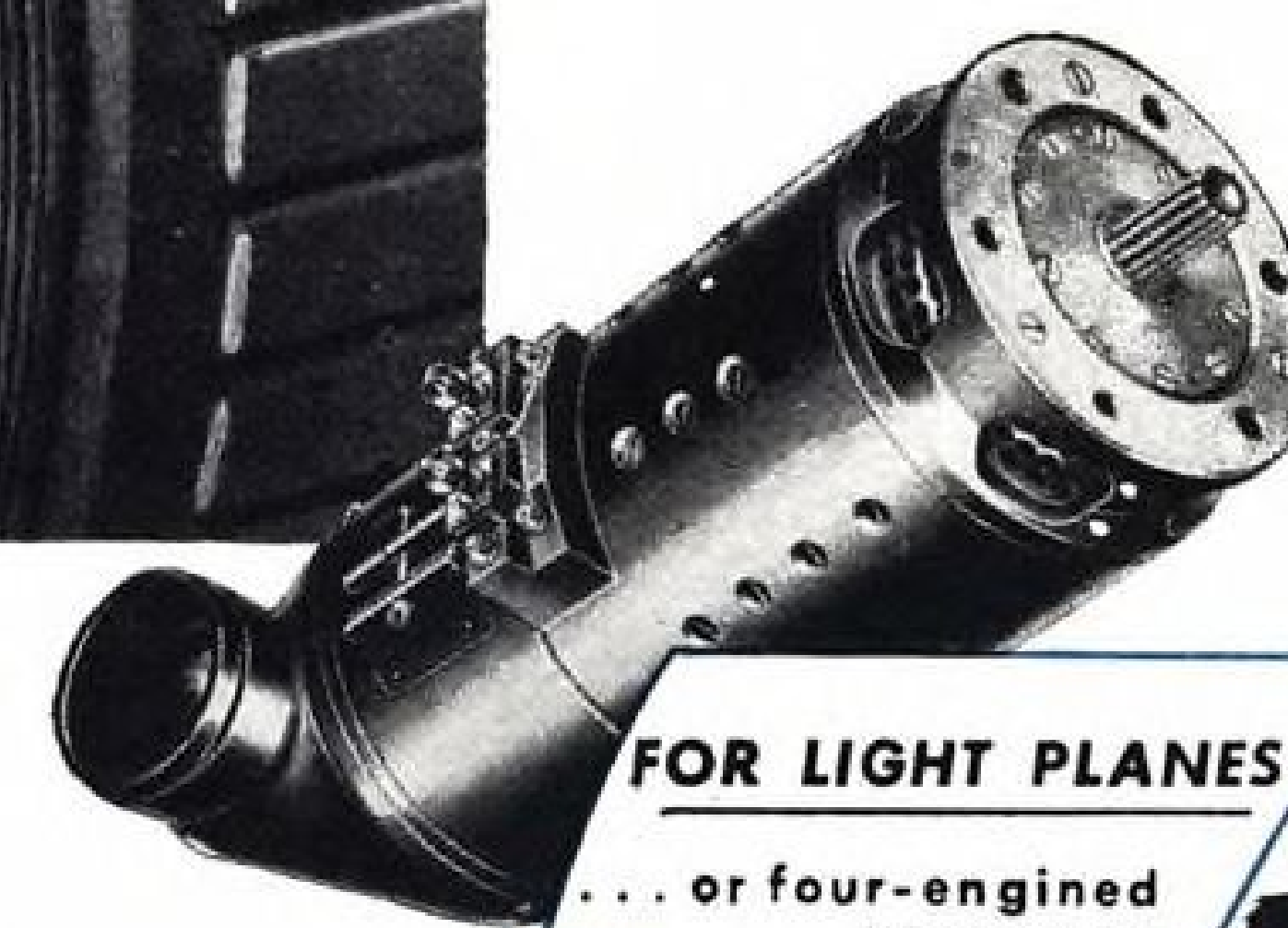
GENERAL  ELECTRIC
074-48-8974



Built to withstand hard usage...

In addition to the silver-brazed connections shown above, G-E aircraft generators are doubly protected against relentless, racking vibration. A flexible shaft within the armature shaft prevents harmful engine impulses from reaching the armature assembly. It also acts as a flexible coupling between the generator and the engine. This inner shaft is further protected against breakage by a vibration damper drive. The mounting flange is specially designed and fabricated of forged steel to absorb hard punishment.

Aircraft manufacturers and airline operators, realizing that the planes of tomorrow will be judged on their ability to stay in the air and out of the repair hangar, are more and more looking to G.E. for help on their electrical problems. General Electric designs and produces complete aircraft electric power systems in addition to such individual equipment as generator, voltage regulators, motors, cable, etc. Thus, G.E. is in a position to offer wide experience, extensive engineering and testing facilities, and manufacturing "know how." Why not call in a G-E engineer now to discuss your electrical requirements? Apparatus Dept., General Electric Company, Schenectady 5, N. Y.



FOR LIGHT PLANES

... or four-engined transports

DIRECT-CURRENT GENERATORS are ideally suited for single-engined planes, and combine high output with light weight and small size. Two- or four-engined planes use them in parallel with voltage regulators to meet heavier load requirements. Type P-2 is rated 200 amperes at 30 volts, with speed ranges of 2200-4500 rpm, 4400/8000 rpm, or 3000/8000 rpm. Type R-1—300 amperes at 30 volts, with speed ranges of 4500-8000 rpm, and 3300/8000 rpm. Type Q-1—400 amperes at 30 volts, with speed range of 4100/8000 rpm.

AC Constant-Frequency GENERATORS

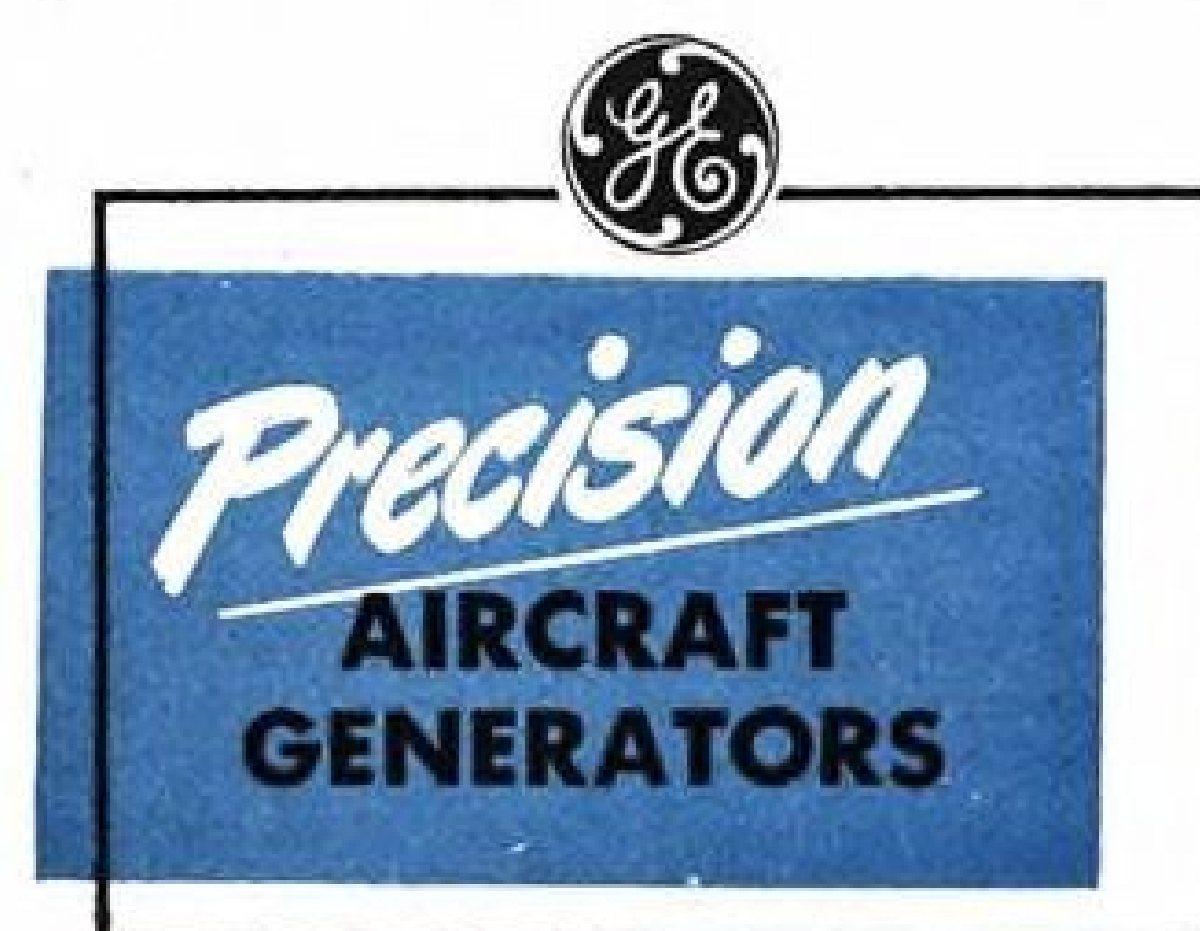
A-c power systems for larger aircraft are now made possible through the use of G-E 400-cycle, a-c generators, operating at constant frequency. Capacities include 40 kva, 208/120 volt, 6000 rpm; 20 kva, 208/120 volts, 8000 rpm.

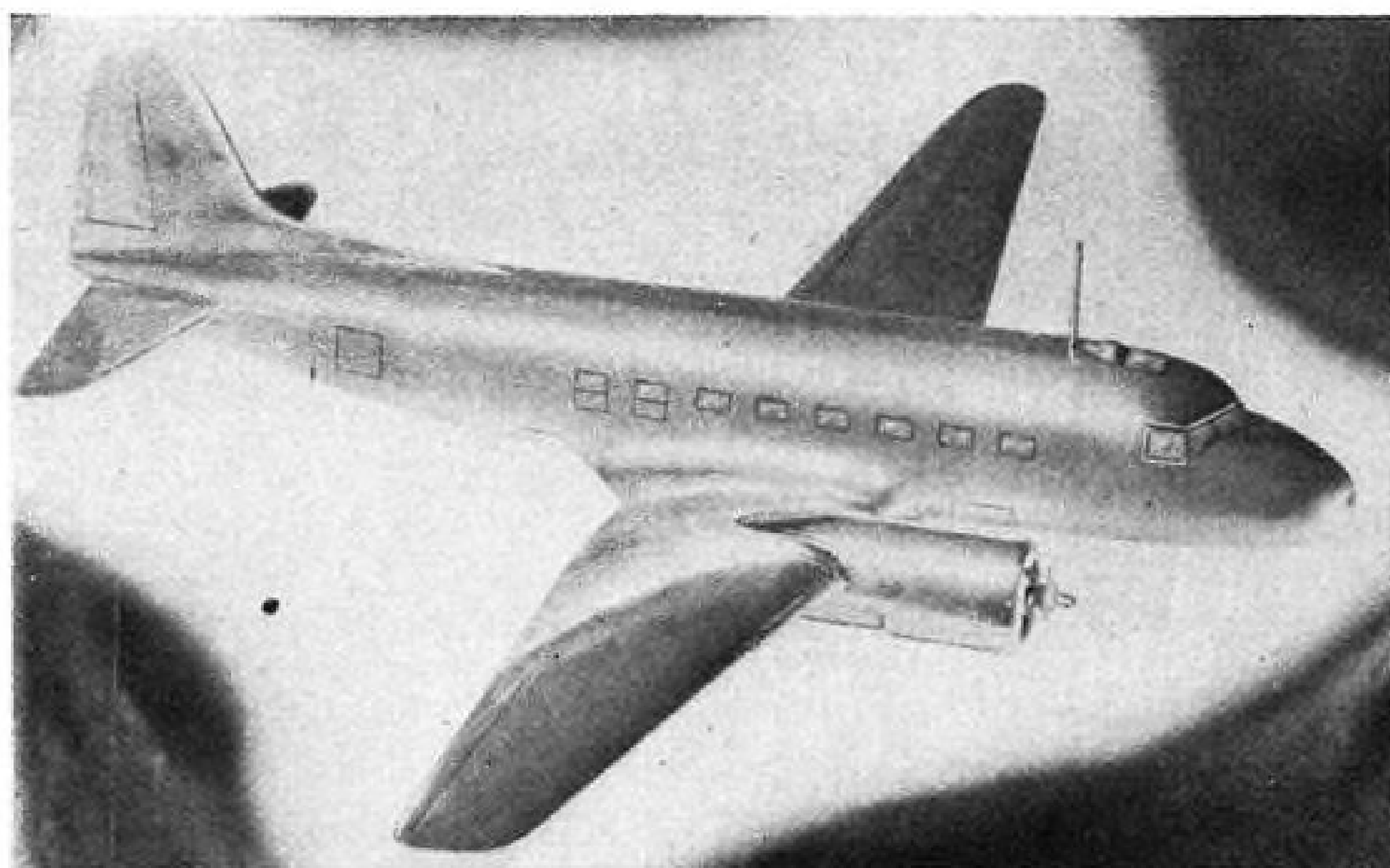
AC Variable-Frequency GENERATORS

G.E. makes a unit rated 200 amperes, 30 volts d-c (10 amperes, 120 volts, single-phase, 800-1600 cycles, a-c) and one rated 10 kva, 0.9 pf, 208/120 volts, three-phase (400-800 cycles, a-c).

Gas-Turbine Starter GENERATORS

Pioneer in aircraft-turbine design, G.E. also builds starter generators for use with gas turbines. One outstanding type operates on 400-amp., 30-volt, d-c power over a speed range of 3700/7200 rpm.





Sign of Growing Up: SAAB-90 Scandia transport plane, a product of a Swedish firm, and a significant indication of how far the Swedish aircraft industry has progressed since it really became an original producer in 1940.

Swedes Building Modern Transport

Saab Aircraft Co. develops Scandia twin-engine plane with 32-passenger capacity and unusual safety features.

Evidence of maturity of the Swedish aircraft manufacturing industry—which struck out on its own designs barely six years ago—is contained in specifications of the SAAB-90 Scandia transport plane now under development by Svenska Aeroplan A.B., more popularly known as the Saab Aircraft Company.

The Scandia is a twin-engine cabin monoplane similar in dimensions and appearance to the Douglas DC-3, but having tricycle landing gear. It incorporates many recent advancements in design together with several novel features. Among these are:

- ▶ "Hot wing" de-icing equipment along the wing and empennage leading edge.
- ▶ Double-paned windshield and the antenna mast.
- ▶ Propeller anti-icing by fluid spray.
- ▶ "Anti-bird impact" windshield panels, designed in accordance with CAR 04.38013.
- ▶ Fire protection provided through the use of tubing extending from the wing tanks outboard and aft through the wing tips through which fuel may be jettisoned with a minimum of hazard.
- ▶ Fireproof upholstery is used in the cabin. CO₂ spray equipment

is mounted on each carburetor and portable fire extinguishers are provided in the cabin.

The Scandia is powered by two P&W Twin Wasp 2SD13-G engines developing 1450 hp. each for take-off. This power gives the craft a top speed of 251 mph. and a cruising speed of 222 mph. at 10,000 ft. It can clear a 50-ft. obstacle after a takeoff run of 2785 ft. at sea level without flaps at a gross weight of 30,000 lbs. Landing run, with flaps under the same conditions, is 2000 ft.

▶ **Two Versions Built**—Two versions are available: a 24-passenger model with a 960-mile range and a 32-passenger arrangement with a 715-mile range. A total cargo capacity of 375 cu. ft. is provided in three holds.

Particular attention was paid to low-speed stability in the design of the Scandia and it has a stalling speed with flaps up of 91 mph. This stall, however, extends only from the roots out to the quarter-panel point and leaves the ailerons effective at stalling angles as high as 19°. The approach is made at 97 mph. with 20° flaps and under these conditions a 45° bank may be made with a radius of 650 ft. for a full 180° turn in 15 seconds.

With full load, the Scandia has a block-to-block speed of better than 200 mph. on a 796-mi. trip using 70% maximum power. Best economy, however, is attained on a 620-mi. trip with a block-to-block speed of 154 mph., only 0.12 gallons per ton-mile being consumed.

▶ **Founded in 1937**—Saab Aircraft

was founded in 1937 and its pre-war production was from North American and Northrop designs built under license. About 50 American engineers were employed temporarily to introduce stressed-skin calculation and design methods, which were not in general use in Europe at the time.

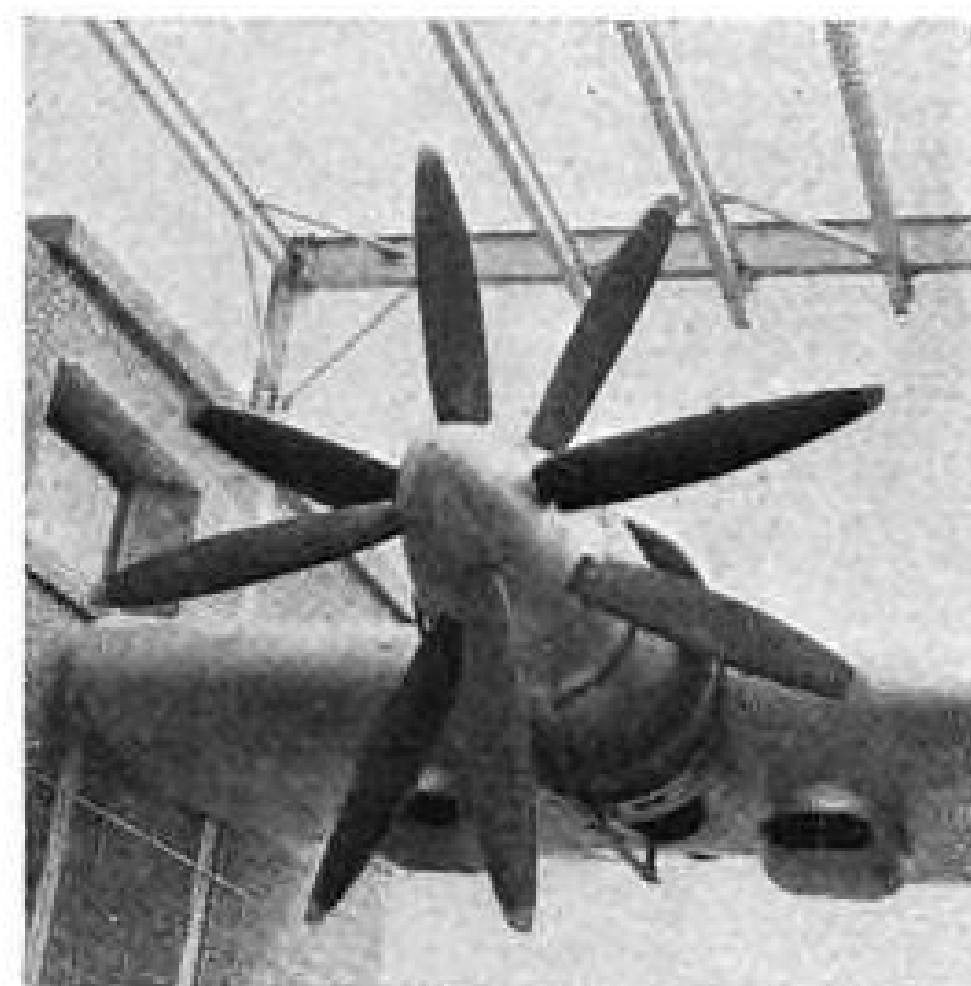
During the war Saab produced single and twin-engine dive-bombers and a pusher fighter for the Swedish Air Force. The company more recently made news by converting an interned Boeing B-17 into a commercial transport.

Farnham Company Making Forming Rolls for England

Farnham Manufacturing Co. of Buffalo is producing forming rolls used to form the leading edges of airplane wings for the DeHavilland Aircraft Company in England, according to Edward L. Keenan, executive vice-president of Farnham Manufacturing Co.

Although the company is completely reconverted to peacetime operations, Farnham is receiving a number of inquiries from foreign countries for airplane-making equipment, Keenan said.

Russia and China have inquired about spar milling machines for making the ribs in airplane wings. During the war, Farnham produced equipment for the U. S. aircraft industry. Farnham believes the U. S. industry "is saturated" with such equipment and most future orders for this type of machinery probably will come from foreign countries.



PYTHON POWER:

Armstrong-Siddeley Motors Ltd., British engine manufacturer, has its powerful new prop-turbine engine Python on a test stand where it has had more test runs than any other such engine. Six of these engines will power the Saunders-Roe S. 45 flying boat.

Special Development Group Is Organized by Bendix

Formation of a Special Products Development Group to coordinate and expand research on controls and engine accessories for guided missiles and pilotless aircraft was announced by Bendix Aviation.

Dr. Harner Selvidge, formerly of Johns Hopkins University, is director of the new group which will operate laboratories exclusively for the work at Bendix's Eclipse-Pioneer division in Teterboro, N. J. and at the Pacific division in North Hollywood.

Bendix has contracts in the guided missile field with both AAF and Navy's Bureau of Aeronautics. It is also one of the contractors on the "Bumblebee" project of Navy's Bureau of Ordnance.

Fairchild Woodwork

Fairchild Aircraft Ltd., Montreal, is now manufacturing its all-metal freighter Husky, and is on full production of millwork for various housing developments. Woodworking machinery at the plant at Longueuil, outside Montreal, is now on three shifts, with 600 persons being employed.

Principal products are doors, cupboards, kitchen frames, window sashes and other items for housing programs.

Until recently the company was making prefabricated aluminum houses, but does not expect to return to this line in the near future due to many housing laws throughout Canada against prefab.

28 U. S. Aircraft Firms Make 47 Civilian Models

Either on the market, or nearing that stage, are 47 different models of U. S. civilian planes produced by 28 manufacturers, it is shown by a tabulation compiled by the Aircraft Industries Association. The listing covers only planes approved for quantity production or undergoing approval tests.

Before the war, there were 26 companies turning out 42 models. Eight of the 1940 manufacturers are no longer in production, but ten other firms are now engaged in civilian aircraft production, four of whom produced only military planes in 1940.

AIA reports that a recent survey of British manufacturers discloses 14 firms producing 28 models of civilian planes.

Aircraft Components CORPORATION

Offers for immediate delivery, subject to prior sale, limited quantities of the following:

PROPELLERS

23E50-471-6339A-12
23E50-473-6379A-0
23E50-505-6353A-18
23E50-505-6477A-0
23E50-505-6507A-0
33D50-111-6511A-9
2B20-241-6135A-9
2B20-229-6135A-15
2D30-227-6101A-15
2D30-233-6101A-12
2D30-237-6167A-15
2D30-247-6101A-12
90LA-78
43K15131
44K13397

BLADES

6101A-6 6353A-12
6101A-12 6353A-18
6101A-13 6379A-0
6101A-15 6477A-0
6135A-9 6491A-0
6135A-15 6507A-0
6167A-15 6511A-9
6339A-12 6565A-18

GOVERNORS

1A2-G5 4K11-G1U
1C2-G6 4K11-G0J
1M12-G 4K11-G0T
1P12-A 4K11-G0U
4G8-G23D-1 4K13-G0B
4G8-G23G-1 4L11-G1J
4K11-G1J

MAGNETOS

SF14LU-7 SF7RN-1
SF14LU-8 DFN
SF14LN-3

CARBURETORS

NA-R9A NA-R6D
NA-Y9E1 PR-58E2

STARTERS

426-10A Type C-21
427-13A Type F-1
444-3F Type H-5
444-4F Type H-6
756-21B Type J-1
915F-3F Type G-5
915-4F Type G-6
947-9A Type C-20
1257-2 Type G-16
1257-8 Type G-14
JH3R
JH4ER

GENERATORS

S-24225 Type M-2
S-24502 Type E-5A
S-24504 Type L-3
S-24510 Type O-1
S-24525 Type L-2
S-22602 Type O-1
1106711 Type O-1
5362404-A Type O-1
718-1A Type M-2

MISCELLANEOUS ACCESSORIES

70G7G3 Coils
VJR24B5X Coils
513-2B Coils
MG149F Inverters
S-657 Inverters
1E-AR280-BHC Feathering Pumps
3P-207JA Vacuum pumps
9135 Fuel pumps
TFD-12900-6 Fuel Pumps
3025-1 Relay Switch
46725A Deicer pumps
744-6A Anticor pumps
3GTR72C1A Relays
323-1B Panel assemblies
1042-6 Voltage Regulator

Many other items including replacement parts for propellers and accessories on hand.

Aircraft

COMPONENTS CORPORATION

Authorized Agent for War Assets Administration

602 Montgomery Street,
Alexandria, Virginia
Phone: Alexandria 0907

901 N. E. 2nd Ave.
Miami, Florida
Phone 9-5347



Foam in a sandwich makes a finer floor for flight

IF 200,000 high heels were to walk over an airliner's floor, how many times would it have to be replaced? Three times? Five times? Some maintenance men might say even higher, because floors that are light enough for flight couldn't be made tough enough for impact like that. Weight concentrated on a small point (like a high heel) is especially troublesome... punches holes and makes for frequent replacement.

Not so with a new B. F. Goodrich flight floor material. A section of it installed on a 10-degree ramp in the B. F. Goodrich offices last December has been taking the pounding of approximately 2000 low and high heels a day plus the punishing wheels of 44 mail trucks. Other flight floor materials in this same test had to be replaced three times, but the B. F.

Goodrich floor material still continues to "take it." The secret of its success is "foam sandwich" construction.

The sandwich (see inset) consists of a core of a new, lighter, stronger hard rubber foam between thin skins of high-strength materials. The result is a lighter weight board with greatly increased load strength and resistance to indentation.

One of the most important characteristics of this material is its extremely low

moisture absorption, which means that the sandwich does not gain weight in service.

This favorable weight-strength ratio, the easy workability of the material, open it to many potential uses besides floors. Strong, lightweight panels, doors, furniture, including curved surfaces, can be made with it. For additional data, write to The B. F. Goodrich Company, Aeronautical Division, Akron, Ohio.

B.F. Goodrich
FIRST IN RUBBER

AVIATION NEWS • October 21, 1946

PRIVATE FLYING

SALES

FIXED BASE OPERATIONS

SCHOOLS

Warnings on Lightplane Future Are Sounded at National Clinic

Piper urges caution in gauging current government-stimulated flying boom and recommends developing transportation utility into personal planes.

By ALEXANDER MCSURELY

A sounding board for criticisms affecting virtually all phases of personal aviation, including dealers, instructors, manufacturers, and flyers, was provided last week by the fourth National Aviation Clinic at Oklahoma City, yet the No. 1 talk bearing on lightplane problems was the coldly, factual appraisal of the industry's present chaotic, expanded state presented by William T. Piper, president of Piper Aircraft Corp., Lockhaven.

Scheduled to forecast "the rate of climb of aircraft production," Piper declined to make any specific prediction. He pointed out that the current private flying boom is a product largely of government-sponsored veteran training and of the tremendous aviation enthusiasm generated in World War II. How long these will continue to affect plane sales is problematical.

► **Some Out of Business**—He predicted that a number of the personal plane manufacturers would go out of business, with the gradual levelling off of demand for personal planes, and that only a few companies capable of mass production would remain.

He recalled that in the early 1930's, personal plane sales had dropped from 6,000 to 2,000 to 500 in two years, because of general business conditions, "and it could do it again," he added. Until the personal airplane gets the utility provided by many additional airports and becomes a real transportation vehicle, its market is very limited as a sports instrument, he declared.

Preventive medicine, to toughen the private flyer's skin or to "exterminate the wolves" which are

putting "the bite" on him, was called for by J. B. Hartranft, Jr., manager of the Aircraft Owners' and Pilots' Association. Citing specific cases from association records to substantiate each charge, he listed among the "bites" to which the private flyer is subjected: exorbitant charges by some "inordinately greedy" aircraft service operators; unjust airport landing fees; unscrupulous or unbusinesslike dealings by a few dealers, distributors and manufacturers, resulting in losses to flyers; overcharges on labor costs; CAA \$5 recordation fees; proposed fees for use of federal airways and airway aids; duplicating tariffs and fees levied by several states against pilots and aircraft owners; unfair charges on fuel and oil made by some operators to transient pilots,

and use of aviation fuel taxes for non-aviation purposes.

► **Hartranft's Recommendations**—Hartranft recommended: written estimates of work to be done, with prices; requirement that dealers and distributors submit copies of bills for repair work, to the manufacturer they represent as well as the customer; requirement for flat rate repair manuals covering all costs; appeal to public officials to eliminate landing fees; protests to CAA and individual congressmen from the entire industry on the \$5 recordation fee and proposed airways use fee; protests, around election time, to state officials against unfair tariffs and taxes; protests to gasoline companies through national aviation groups, on unequal fuel charges and action through national aviation groups on state fuel taxation. He sounded a warning to manufacturers, dealers and distributors, of steadily mounting consumer pressure to require rectification of unfair dealings.

Warning that the end of the seller's market for personal planes is "not too far off" Max Karant, editor of Flying magazine, urged airplane manufacturers, distributors and dealers, to "make the customer reach for his check book, that arm-crooking motion on which the welfare of this entire industry depends.

► **Scores Public Relations**—"He described the personal aircraft-industry as "backward" in salesmanship, public relations and service and asserted:

"Unless something is done soon,



DANISH KZ-3 LIGHTPLANE:

American writers who visited Denmark recently were seriously impressed with the performance and agility of the 100 hp. two-place post-war lightplane KZ-3, built by the Skandinavisk Aero Industri, Copenhagen, Denmark. Equipped with fixed leading edge wing slots as well as slotted ailerons and flaps, the plane lands at only 36 mph. and cruises at 106 mph. Takeoff run with full load in no wind is quoted at 230 ft. with landing run of only 165 ft.

AVIATION NEWS • October 21, 1946

PRIVATE FLYING — 25

we're going to slide back to the prewar days of private flying when the majority of pilots gave up their licenses within two years and an unbelievable number of plane owners sold out in disgust."

He called for adoption of the tricycle landing gear as an "absolute must for the average careless, foolish, inexperienced private pilot," and urged value of spin-proof characteristics, simplified controls, starters, improved-visibility windshields, shoulder safety belts, and other items to make the planes safer and more pleasing to the customer.

Woman's Voice—Another voice in favor of the simplified control, spinproof, tricycle gear plane was that of Elizabeth Gordon, editor of House Beautiful, who first soloed in an Ercoupe in four hours 20 minutes, and has a total of 120 hours, mostly in conventional planes. "Anyone who approaches flying seeking utility, convenience and a method of transportation will find the answer in two controls and tricycle gears," she declared.

Frank Clark, Oklahoma City Stinson distributor and automobile dealer, urged aviation to profit from the automobile business's mistakes. He called for standardization of service tools and repair kits, and accessibility of parts, so that any aircraft service operator has tools and parts for servicing most personal planes. He criticized failure to make, and stick to, repair estimates as a common failing of both auto and airplane service operators. "Never spend a dime without approval of the customer," he advised aircraft repairmen.



FLYING FAMILIES:

Typical of growing world-wide interest in personal planes are these two pictures of flying families, British and American. The Arvid Temple family of Buffalo, Okla., shown left with their Aeronca, including father, mother, and three daughters, all are licensed pilots, and members of the Flying Farmers

Seaplane Growth—Growth of private flying interest in seaplanes, both float and amphibian types, was cited by Robert S. Fogg, Edo Aircraft Corp. sales manager, who reported that in 1946 float manufacturers will have produced more than 10 times the number of floats made in any single pre-war year. He predicted within three years 10 percent of landplane types will be converted to water use by changing wheels to floats according to season, while thousands of amphibians seem certain to be built in the same period.

He urged need for development of many more seaplane bases, but reported the number has already tripled from the 300 developed prior to the war. Between New York and Albany there is a base every 11 miles along the Hudson River and more are being built.

Soaring Wing Lightplane Is Sold to Designer

Jarvis Mfg. Co. of Glendale, Cal., has sold to the designer the radical VJ-21 soaring wing personal airplane now under test flight, and all engineering drawings. He is Volmer Jensen, West Coast glider designer. The plane is distinctive in its use of a single landing wheel protruding from a fuselage well, retractable landing skids on the wings, and location of its pusher engine in a nacelle above the wing.

Said Pres. Sam Jarvis: "We've decided to manufacture aluminum stepladders and aluminum lug boxes." During the war Jarvis was a subcontractor for production of warplane components, and aircraft instruments. Optimistic in the

Helicopter Pilots

On basis of experience at Bell Aircraft's helicopter pilot training school it is concluded that the pilot actually requires less skill to operate the helicopter than to fly a normal airplane, although it requires a little more consideration.

David Forman, manager of Bell's helicopter division, speaking at the Oklahoma City National Aviation Clinic in place of President Laurence D. Bell, who was ill, said that licensed pilots training at Bell soloed on the helicopter in 5 to 6 hours, and received their helicopter pilot rating after about 25 hours, half solo.

Only licensed pilots have been accepted thus far for training. Foreman predicts development of helicopters as large as 50 tons gross weight sees immediate limited commercial applications for helicopters now commercially licensed and thinks "within a few years" the helicopter has the best chance of becoming a so called automobile of the air for personal transportation, if there ever is such a vehicle. First commercial deliveries start in November, he reported, on the Bell two-place model, already approved by CAA, and now in production in a quantity of 500 at the Bell plant.

early development of the VJ-21, he cooled in the face of competition from established airplane builders possessing a variety of models for the personal aircraft market.



Association. The Shipside family, of Blidworth, Nottingham, at right, built their own airstrip and hangar on their farm, and have a 500-gallon fuel tank on the field as a reserve. The father has flown more than 250,000 miles, and the son is taking pilot training, in their three-place Auster.

Better Teaching

Recommendations for a new approach to reduction of airplane accidents by insuring more adequate instruction of flight students, were made at the National Aviation Clinic last week by Jerome Lederer, chief engineer, Aero Insurance Underwriters.

"Instructors, by and large are turning out flyers, who know how to manipulate the airplane, but not sufficiently informed to acquire judgement, and therefor not pilots," Lederer said. He suggested a national program including:

"Naming a committee to determine how pilot training is deficient from viewpoint of safety as determined by CAB accident records, with a report called for by Jan. 1.

"Bringing every influence to bear on certificated instructors and schools to correct inadequacies.

"Requesting CAA to bear down on instructors failing to carry out full responsibilities.

"Proposal of a code of ethics for instructors.

"Attempt to trace back accident investigations to the instructors of pilot who were careless, reckless or incompetent."

Road Builders Aid For Air Strips Asked

A resolution asking that public road building equipment be made available to farmers desiring to build air strips, on a cost basis, providing the farmers agreed to maintain the strip as an emergency landing facility for public use, was voted at the recent regional aviation conference held at Atlanta, Ga. under CAA regional sponsorship.

Some other resolutions called for:

► An NACA research program in cooperation with manufacturers to the end that better planes may be made available.

► A method to provide accurate and current weather information covering off-airway points.

► Simplification of FCC procedures so that licenses for personal aircraft transmitters may be processed promptly.

► Added responsibility on operators and instructors for the proper instruction of student pilots in

Briefing For Private Flying

READY FOR TEST—Great Britain's first simplified control private plane, the Chrislea Ace, four-place high-wing tricycle gear aircraft (Aviation News, May 20) was due to begin flight tests recently at Heston airport. Prototype is powered with a 125 hp. Lycoming flat four, although originally the plane was to have used a 100 hp. Monaco. Besides the linkage of rudder operation to the control wheel another interesting feature is a foot-operated throttle override for convenience in taxiing after hand throttle has been closed. Presumably it might also be used in the air if desired. The plane is expected to cruise at 116 mph., with 45 mph. stall speed and 127 mph. top speed. Range is estimated at 290 miles, takeoff run to clear 50 ft. obstacle at sea level at 750 ft. and equivalent landing run at 500 ft. Advertised as the lowest priced four-seater in the world, the Ace was priced at \$2600, although this may have been changed recently.

LANDING FEES—Lockheed Air Terminal, Burbank, has put into effect a fee of \$2.50 per landing for single-engine planes and \$5 per landing for twin engine planes of up to 25,000 lbs. gross weight. The fees are admittedly high, with the hope of eliminating most of the itinerant lightplane traffic from the field, as a move toward making the field a contract air freight terminal. The terminal had 12,000 landings in September, prior to putting in the landing fees. August figures showed 1638 landings and takeoffs of itinerant planes, as against 517 in August 1945, while local plane landings and takeoffs numbered 1480 as against 578 in August, 1945.

IMPROVE MAITLAND STRIP—Project to improve Maitland Air strip, on the Milwaukee water front, one of the few downtown landing facilities for private flyers, is being urged in a resolution presented to the city council, calling for \$100,000 expenditure by the city, plus any federal aid that can be obtained. Improvements would include paving the present cinder-covered runway, and building hangars and administration facilities in the hollow undersurface of nearby Lincoln memorial bridge. The city spent \$310,148 on the field before 1931 for purchase of land and construction of the runway. Since it was decided in 1945 to return it to use as a lightplane field, the city has spent \$25,135 for grading, planting, fencing and top soiling the field. The strip also might be used as a downtown terminal for rapid airmail shuttle service to Billy Mitchell Field, Milwaukee's outlying major air terminal.

WEATHER BROADCASTS FOR PRIVATE FLYERS—Dr. F. W. Reichelderfer, chief of the U. S. Weather Bureau, has announced plans for test broadcasts from commercial radio stations of weather information for flyers, supplementing the weather information broadcast over CAA range stations. Stations in Madison, Wis.; Chicago, Wichita, Ft. Worth, and Salt Lake City, are to make the first tests, and were picked to include urban and rural areas in the plains and the mountains, for a complete trial of the experiment. Stations, wavelengths and time of broadcasts are to be announced later. The Weather Bureau also has available a schedule of current broadcasts made from some of its local offices which may be obtained by writing the U. S. Weather Bureau, Washington, D. C.

—Alexander McSurely

meteorology and navigation for safer cross-country flying.

► Flight check on any pilot before he is permitted to fly a plane.

► Endorsement of "any move on the part of the CAB which will eliminate propeller hazard to personnel on the ground or in the air, also noise hazard, and that this be brought to attention of the manufacturers."

Presiding at the meeting were

Fred Lanter, sixth region administrator, and his assistant for personal flying development, Carl W. Clifford. The resolution about propellers was in response to a suggestion from Lanter "That he had been trying to get the manufacturers to do something about propellers. Lanter advised that he did not believe "the average family would buy a plane with the propeller out front as a hazard."



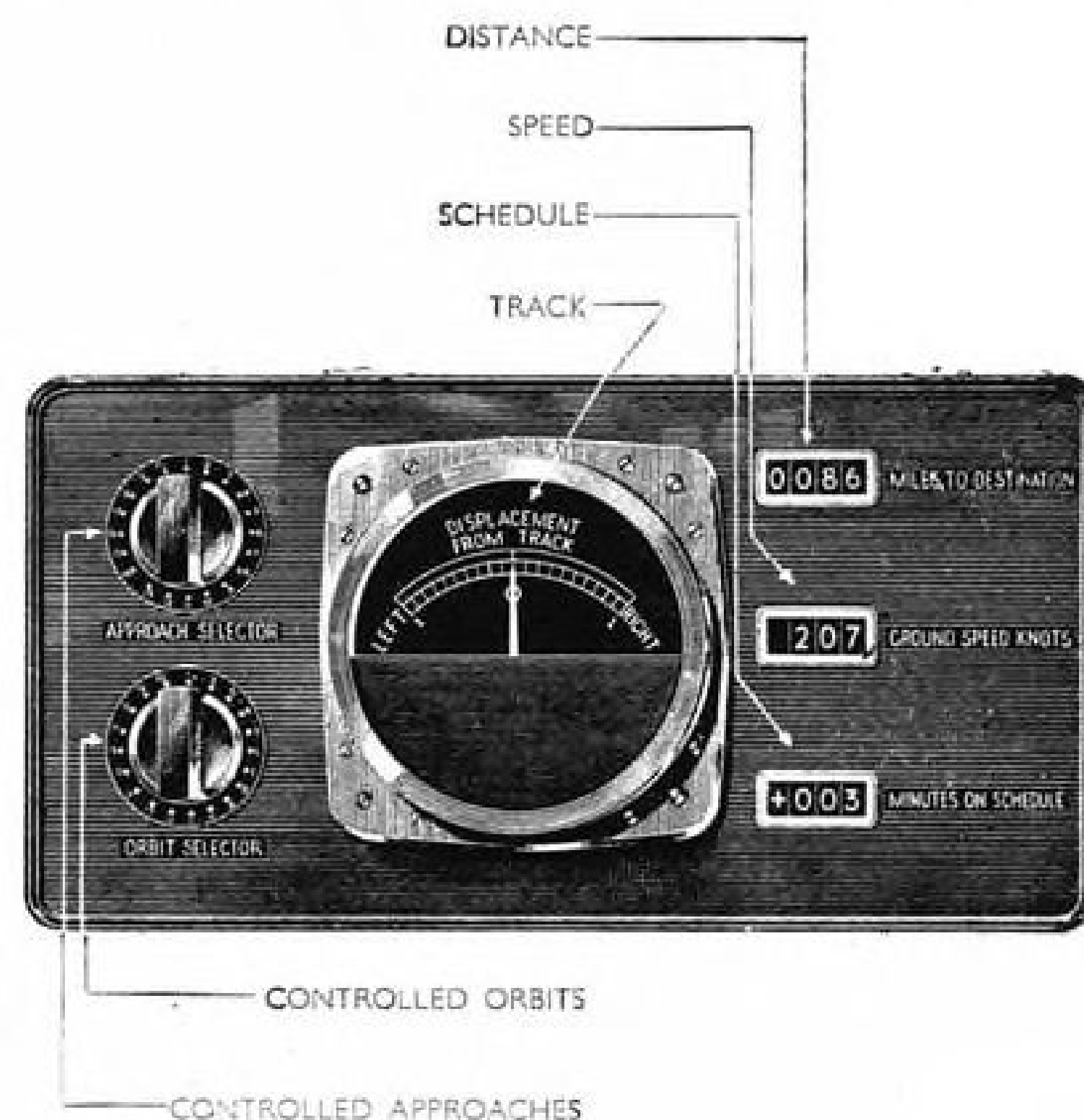
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The Decca Track Control Unit already goes far to eliminate what could well prove to be the bottle-neck of the future—namely, traffic saturation at the main airports.

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TRANSPORT

Alaskan Air Chaos Expected To Stir CAB Regulating Action

Battle between certificated and nonscheduled airlines bitter as Board prepares to tighten restriction over both types of carriers.

By MERLIN MICKEL

Air transport conditions in Alaska have reached such a confused point that CAB is expected to act soon to tighten restrictions over both certificated and uncertificated carriers in the Territory.

The conflict between these two groups is even more pronounced there than in the U. S. The certificated carriers generally feel that their uncertificated competitors should be put out of business, while the latter maintain that they are filling a public need and should be allowed to continue operations.

► **Remedial Action Likely**—CAB has been studying the situation for some time (AVIATION NEWS, Feb. 26, 1945) with an eye to remedial action. The form this will take has not been announced, but probably it will include an investigation of carriers allegedly operating without Board authority or outside the scope of its exemptions, with steps to prosecute where violations are evident.

Stricter regulation and enforcement of certificate obligations also are in prospect for Alaska's certificated carriers. Control over service suspensions likely will be tightened and accounting reports and tariff and schedule notices required.

Some service was abandoned during the war by the certificated operators, who in most instances fly both regular and irregular routes, because of economic conditions or equipment and personnel shortages. Meanwhile, uncertificated carriers, many of whom had been doing war contract flying, came into the picture to offer strong competition where regular service had been reduced.

► **Want Enforcement**—Certificated operators feel generally that the Board should bear down in its en-

forcement of the law as it applies both to themselves and the non-certificated carriers. They feel that Board action in the Alaskan situation thus far has been inadequate. In favoring elimination of the uncertificated group, they concede that they themselves must be made to provide the service required by their certificates or else forced to relinquish them, perhaps to someone else.

Too much competition from other certificated carriers or non-certificated operators who may appear on the scene overnight, they contend, will hamper development plans. They decry cutthroat practices among the uncertificated carriers who they charge sometimes cut rates to get business and at

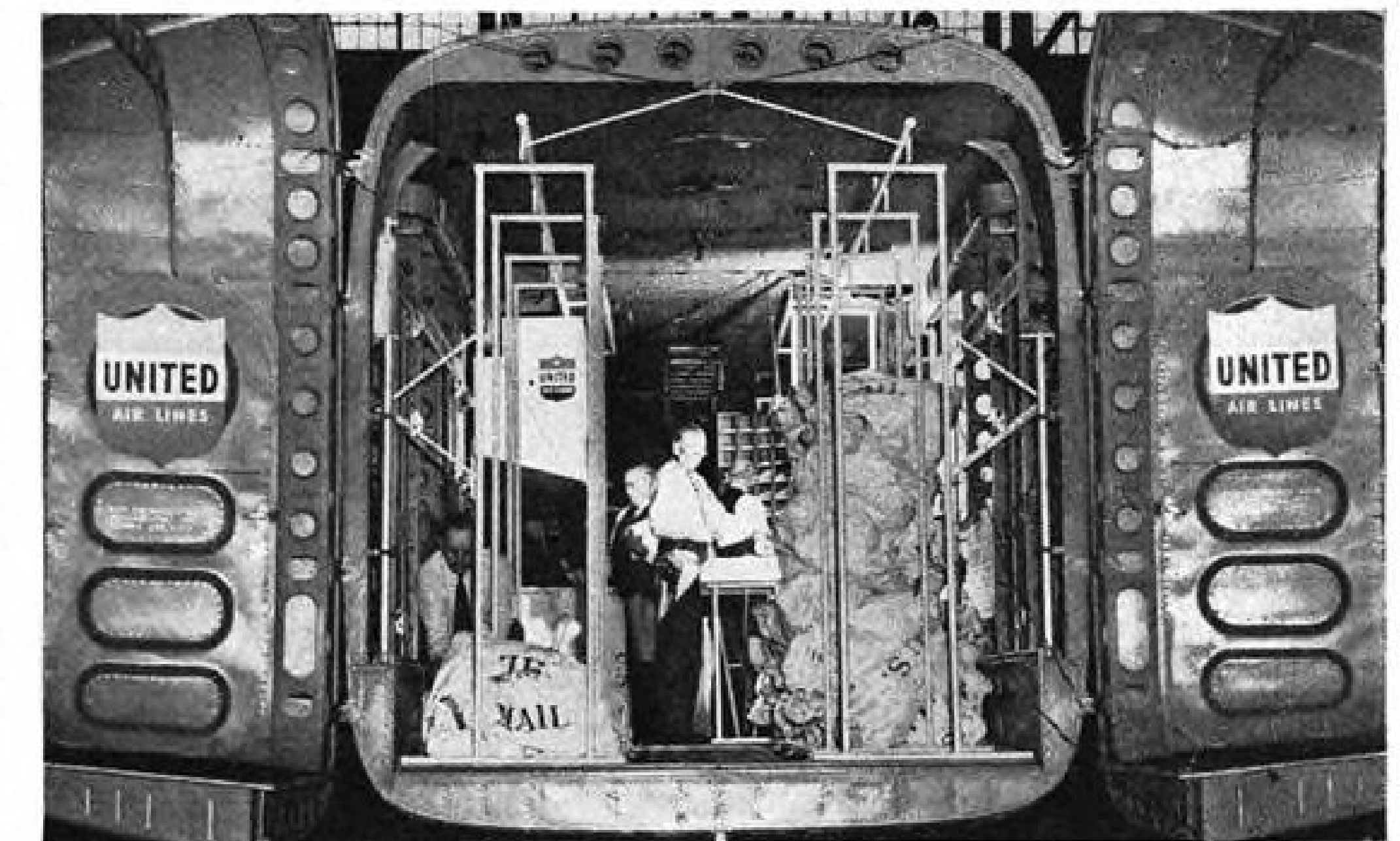
other times charge exorbitantly when the traffic will bear it.

There also have been complaints that uncertificated operators get business by listening in on radio calls intended for others, and sometimes pick up traffic on the day before arrival of the scheduled carrier.

► **Veterans an Issue**—Uncertificated carriers, on the other hand, believe they are offering a difficult, personalized service that is necessary in the areas they serve. Although not in agreement on regulation, some feel it might be advisable as a method of keeping new operators from coming into the field. Some believe that every veteran should be permitted to fly, while others favor an entire absence of regulation.

There are between 30 and 35 noncertificated operators in Alaska, according to the latest figures, compared to about a score of certificated. The latter will drop to about 15 if the Board approves pending acquisition and consolidation proposals. Estimates are that the uncertificated group owns a little less than half of the planes in the Territory, which numbered around 160 last summer, but because of its smaller equipment, has less than a fourth of the total seating capacity.

One matter to which the Board is expected to devote attention is that of mail rates for the certificated carriers. Those prevailing



PACKET RIGGED FOR MAIL:

This rear view of the Fairchild C-82 Packet shows how the big plane outfitted with mail bag storage racks, work tables, parcel post bins and sorting racks for its part in special airmail flights early this month. Flown transcontinentally by United Air Lines, the plane since has been returned to the Fairchild plant at Hagerstown, Md., where it was stripped of the mail gear and prepared for delivery to the Army, with whom the Post Office Department made arrangements for its use.



WEST COAST SET FOR FEEDER OPERATION:

West Coast Airlines, recently certificated Washington and Oregon feeder-line, expects to begin operations late this month. The carrier will use DC-3s, equipped to carry 24 passengers. Picture shows a C-47 being converted for West Coast at Grand Central Air Co., Glendale, Cal., for use in pilot training. (Grand Central photo)

were set in 1938 mail contracts and earlier. At least one operator has asked that a new mail rate be set, and it appears likely that CAB will call for data as a basis for new mail rate proposals.

Hawaiian Airlines Buys Sikorsky S-51 Helicopter

Hawaiian Airlines has announced purchase of a four-place Sikorsky S-51 helicopter for December delivery and will use the craft in a diversified series of experiments to test its commercial possibilities in the islands.

Stanley C. Kennedy, Hawaiian's president, pointed out that because of the rugged nature of the islands it is not feasible in many places to build airports for use by the carrier's DC-3s. Besides providing supplemental passenger, mail and cargo service, the helicopter will be used for photographic and agricultural survey work.

TWA Forms New Firm To Begin Name Changing

First step in change of TWA's corporate name from Trans-Continental and Western Air to Trans World Air Line has been taken with the formation of a corporation under the latter name.

Trans World Air Line, Inc., chartered under Delaware laws to engage in air transportation, has certified to the New York Secretary of State at Albany that it will do business in New York state at 120 Broadway, New York City, room 332.

Arthur M. Jens, Jr., secretary of TWA, is secretary of the new corporation, which is capitalized at \$100,000 in \$1 shares. Chadbourne, Wallace, Park & Whiteside, 25 Broadway, are its attorneys.

Organization of the new corporation will have the effect, say TWA officials, of copyrighting the Trans World name, already used by the airline on its planes and otherwise, to prevent its use by others until the long legal procedure of actual change can be effected.

CAB Officials Praise Pilot Who Shouldered Blame

CAB safety officials are generous in their praise for a United Air Lines pilot, Capt. Leonard H. Smith, who admitted responsibility for the crash of a UAL DC-4 near Cheyenne two weeks ago.

Smith, recuperating at his home in Atherton, Cal., from injuries received in the accident, which cost two lives, submitted a deposition at a CAB hearing in which he said the plane probably lost altitude when he glanced away from the instruments while circling for a landing at Cheyenne airport. Press reports said he cleared copilot J. L. Buckman of San Francisco of blame.

The pilot's testimony, officials at the Board said, would save both time and expense.

The accident was the first fatal accident involving a DC-4 in domestic scheduled operation.

Investigations also were being conducted into two other accidents, in one of which an Eastern Air Lines DC-4 with 26 aboard crashed

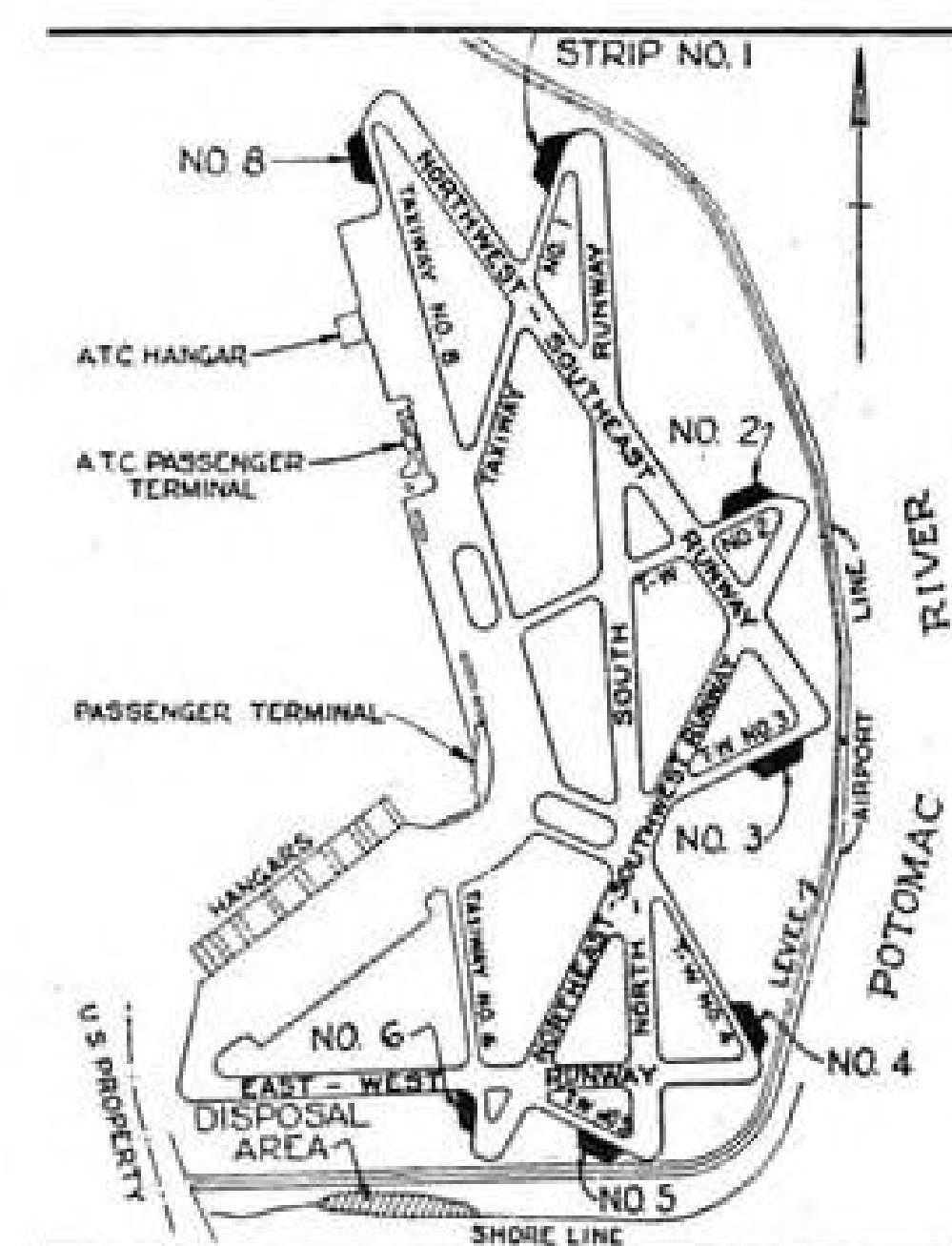
on a 200-ft. hill in a fog while coming into Washington National airport on its way from Miami to New York. Although the plane was destroyed by the crash and fire which followed, the only two aboard who were hospitalized were the pilot and copilot. Neither was seriously injured.

The other mishap involved a TWA Constellation on a ferry flight from New York, which overshot New Castle, Del., field while landing, ran across a highway where it struck an automobile, and caught fire. Eight crewmen were unhurt.

Stephensville Crash Cause Still Clouded After Hearing

CAB's recent New York hearing on the American Overseas Airlines DC-4 crash near Stephensville, Newfoundland, failed to disclose evidence of structural or engine failure, and the cause of the accident remained clouded.

Whether the runway used by the AOA plane in taking off prior to the crash should have been considered safe for night operations by a fully-loaded DC-4 was studied closely. This runway faces



WAITING SPACE:

Black areas in this diagram of Washington National Airport show locations of eight new taxiway parking strips, installed for planes waiting at the ends of takeoff runways to speed dispatching in instrument weather. The waiting strips hold three planes, any of which can be cleared by the tower for takeoff. Previously planes awaiting takeoff clearance lined up single file along the taxiway, not always in proper clearance order.

hills rising 1,200 to 1,500 ft. only seven miles away, and the American Overseas plane crashed, killing all aboard, when it failed to clear one of these elevations.

Airline Cargo Totals Soar to Million Mark

Air cargo shipments on the nation's certificated domestic airlines climbed over the 1,000,000 freight-ton-mile mark for the first time during July and continued to show spectacular gains in August, CAB figures show. Total for July was 1,264,053 freight ton miles and for August over 1,670,000 freight ton miles—six times the January figure.

Airline cargo men believe that part of the continued sharp upswing in tonnage is accounted for by shippers who have switched their business from the contract and nonscheduled airfreight operators in order to take advantage of the more regular common carrier service.

American Airlines continues to fly the most cargo—707,962 freight ton miles in July and 992,791 ftn. in August. AA's July report includes 258,030 ftn. flown by its contract air cargo division; August total for the contract division was 397,580 ftn. Other August figures include United, 332,856

ftm.; TWA, 247,879 ftn.; Braniff, 22,394 ftn. and Western, 21,877 ftn.

PCA flew 608 ftn. in July—its first month as a cargo carrier—and 41,189 ftn. in August. Chicago & Southern and Delta both began flying freight for the first time in August and reported 1,915 and 3,146 ftn., respectively.

California Air Travelers Get Joint Ticket Deal

Under a new cooperative arrangement between Western Air Lines and Continental Air Lines, midwest-California travelers can visit both Los Angeles and San Francisco for the same price now paid for direct Kansas City-California flights.

Passengers in the east may buy tickets to San Francisco or Oakland, ride Continental to the Denver terminal, then Western via Los Angeles with stopover privileges to the Bay area. The same arrangement prevails west to east. It was effective Saturday, Oct. 5.

Northwest Asks Fare Cut on Anchorage Run

Northwest Airlines has filed a new tariff with CAB calling for fare reductions between Seattle-Tacoma and Anchorage, Alaska, to

\$120 one way and \$216 round trip. Reduced fares for children from 2 to 12 also are contemplated. The cuts will be effective Oct. 25, if CAB approves.

Passenger fares were announced also on NWA's new route to Alaska through the Twin Cities, where operations authorized in the Pacific case, (AVIATION NEWS, Aug. 12) are to start "within a few weeks." Circle tours will permit passengers from the east to fly to Alaska over either the inside or outside route, and return the other way at no extra cost.

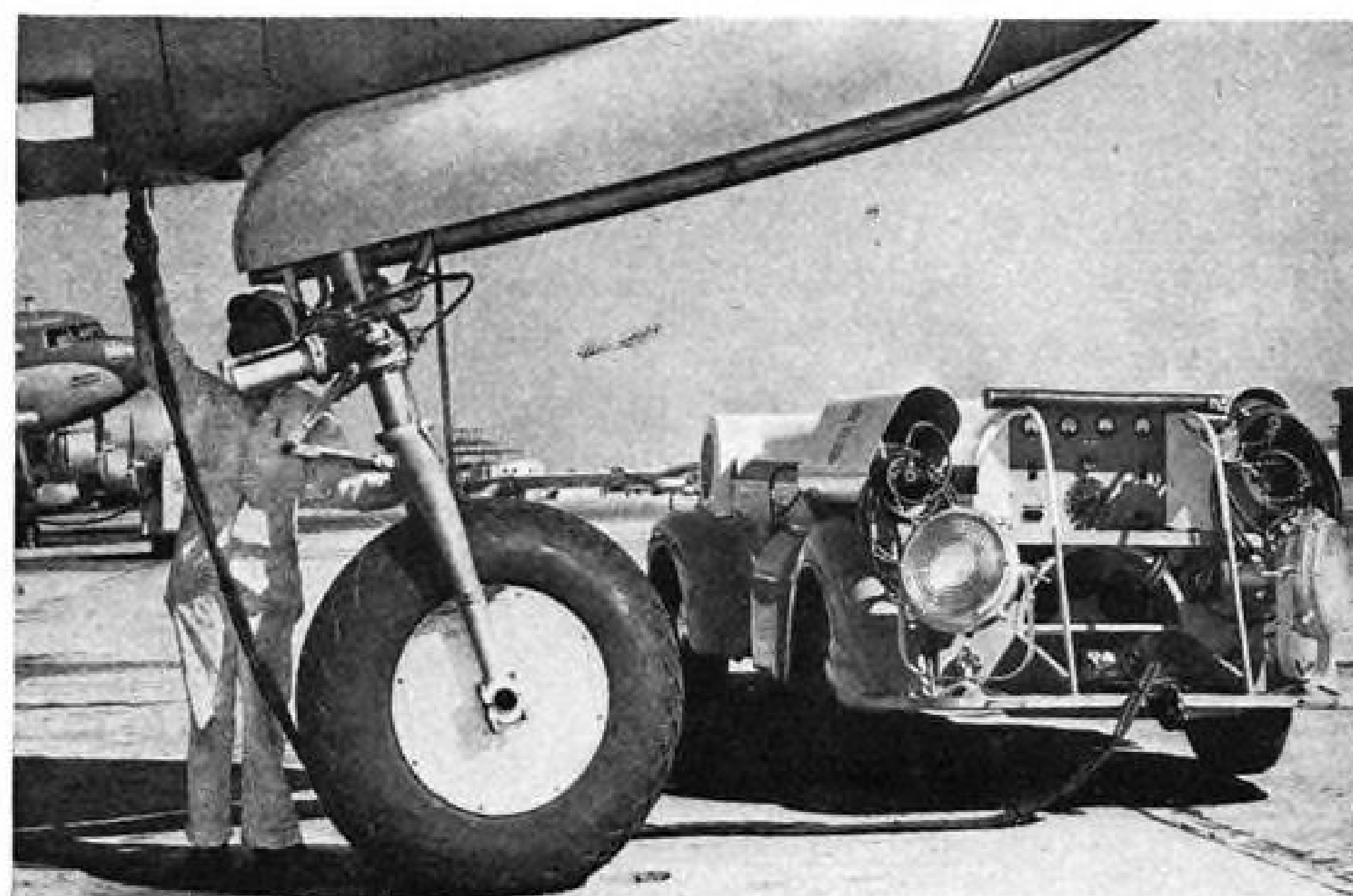
New fares through the Twin Cities gateway to Anchorage: from New York, \$238.20 one way, \$452.60 round trip; children, \$178.30 one way, \$344.60 round trip. From Chicago, \$205.45 one way, \$386.90 round trip; children, \$145.45 one way, \$278.90 round trip.

CAB ACTION

The Civil Aeronautics Board:
 ● Consolidated application of Airnews, Inc., (Docket 2387) in air freight case (Docket 810 et al.); dismissed application of Southwestern Airlines (Docket 1169) from same proceeding at applicant's request; and permitted City of Houston and Chamber of Commerce of Delaware to intervene.
 ● Permitted Western Air Lines to suspend service at West Yellowstone, Mont., from Sept. 16, 1946, to June 14, 1947, and between Sept. 16 and June 14 of each year thereafter until further Board order.
 ● Denied petition of Southern Commercial Air Transport, Inc., to reopen record in Mississippi Valley area case (Docket 548, et al.).
 ● Permitted Chicago and Southern Air Lines to serve Havana, Cuba, through Rancho Boyeros airport.

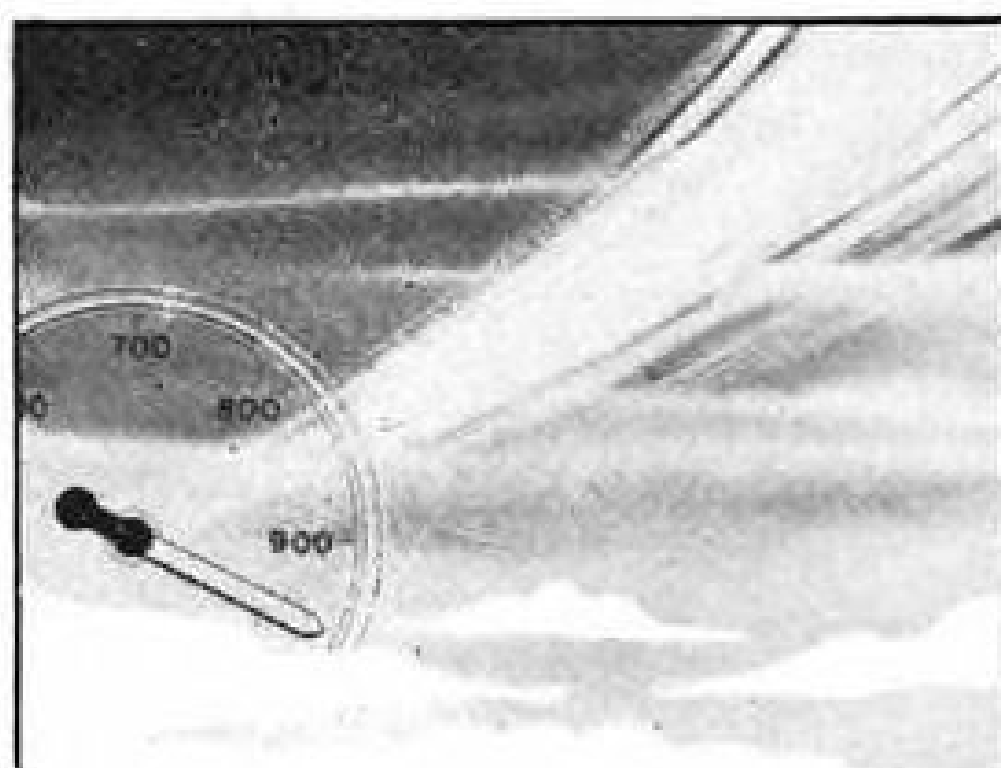
CAB SCHEDULE

Oct. 21. Exchange of rebuttal exhibits in Continental Air Lines' San Antonio-Hobbs certificate amendment case. (Docket 2087.)
 Oct. 21. Oral argument on PCA-Northeast merger case. (Docket 2168.)
 Oct. 23. Hearing in Detroit-Washington route case. Postponed from Oct. 21. (Docket 679 et al.)
 Oct. 28. Briefs due in Arizona-New Mexico area route case. (Docket 968 et al.)
 Oct. 28. Exhibits due in Royal Dutch Air Lines' (KLM) application to serve Ciudad Trujillo, D. R. (Docket 2348.)
 Oct. 28. Hearing in Continental Air Lines' San Antonio-Hobbs certificate amendment case. (Docket 2087.)
 Oct. 28. Prehearing conference on TWA-Delta equipment interchange agreement. (Docket 2346.)
 Oct. 30. Briefs due in Great Lakes area case. (Docket 535 et al.)
 Oct. 30. Hearing in Pan American Airways' domestic route case. Postponed from Oct. 29. (Docket 1803.)
 Nov. 1. Briefs due in Universal Air Travel plan case. (Docket 1939.)
 Nov. 2. Exchange of rebuttal exhibits in air freight case. Extended from Oct. 19. (Docket 810 et al.)
 Nov. 4. Briefs due in Kansas City-Memphis-Florida case. Postponed from Oct. 21. (Docket 1051 et al.)
 Nov. 4. Hearing on Royal Dutch Air Lines' (KLM) application for service to Ciudad Trujillo, D. R. (Docket 2348.)
 Nov. 13. Hearing in air freight case at Fort Worth, Tex. Postponed from Nov. 12. (Docket 810 et al.)
 Nov. 15. Exchange of exhibits in freight forwarder case. (Docket 681 et al.)
 Dec. 20. Exchange of rebuttal exhibits in freight forwarder case. (Docket 681 et al.)
 Jan. 10. Hearing in freight forwarder case. (Docket 681 et al.)



MAINTENANCE TRUCK GETS TRIAL:

United Air Lines is experimenting with this ramp maintenance truck at Chicago. Maneuverability speeds plane servicing. The unit has auxiliary power for engine starting; water, alcohol and hydraulic fluid tanks; air, nitrogen and oxygen cylinders; flood lights and fire extinguishers, and aircraft towing equipment. Manufacturer is Couse Manufacturing Co., Newark.



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ANDESA Plans Stock Sale to Ecuador Investors

Discussions of the capitalization of Aerovias Nacionales de Ecuador S. A. (Andesa), American-owned airline in Ecuador, have been held with the government there in anticipation of the sale of stock to Ecuadorian investors.

There is no indication, say underwriters of the line at Willis E. Burnside & Co., New York, that the Ecuadorian government may take over the company, as recent dispatches indicated (AVIATION NEWS, Sept. 23).

Andesa operates three C-46s and two Norseman transports, recently negotiated a \$50,000 contract with Shell Oil Co., and is grossing better than \$3,000 daily, according to the company's advisory consultant in New York. Freight and passenger load factors have been running close to 100 percent.

Schleit to Law

Public Counsel Philip Schleit has left CAB to join the Washington law firm of Denning & Cross. Schleit had been with CAB for 2½ years, was head of the certificates and permits section of the general counsel's office, and participated in the nonscheduled investigation, Page Airways and New England area feeder cases.

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Braniff Latin American Service Planned for Jan. 1

Braniff Airways will begin service on its Latin American route within 60 to 90 days after governmental arrangements now in progress are completed, T. E. Braniff, president, announced last week. He said there is a possibility that initial operations will start around Jan. 1.

Company officials recently completed an 18,000-mile survey flight over the new system, which was authorized by CAB last May and extends from Houston to Rio de Janeiro and Buenos Aires via Havana, Balboa and the west coast of South America. Five DC-4s ordered for the South American operation will be delivered to Braniff by Glenn L. Martin this month and next. The 48-passenger craft will be replaced later by DC-6 sleeper planes and Martin 303s.

Seat Reductions

PCA, having reduced from 59 to 50 the number of seats in the DC-4s with which it started non-stop service last week between Chicago and Washington, plans to make similar reductions in the seating capacity of its other 20 DC-4s. A spokesman said the heavy demand for seats that led to the original installation had "slacked off."

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P-216, AVIATION NEWS
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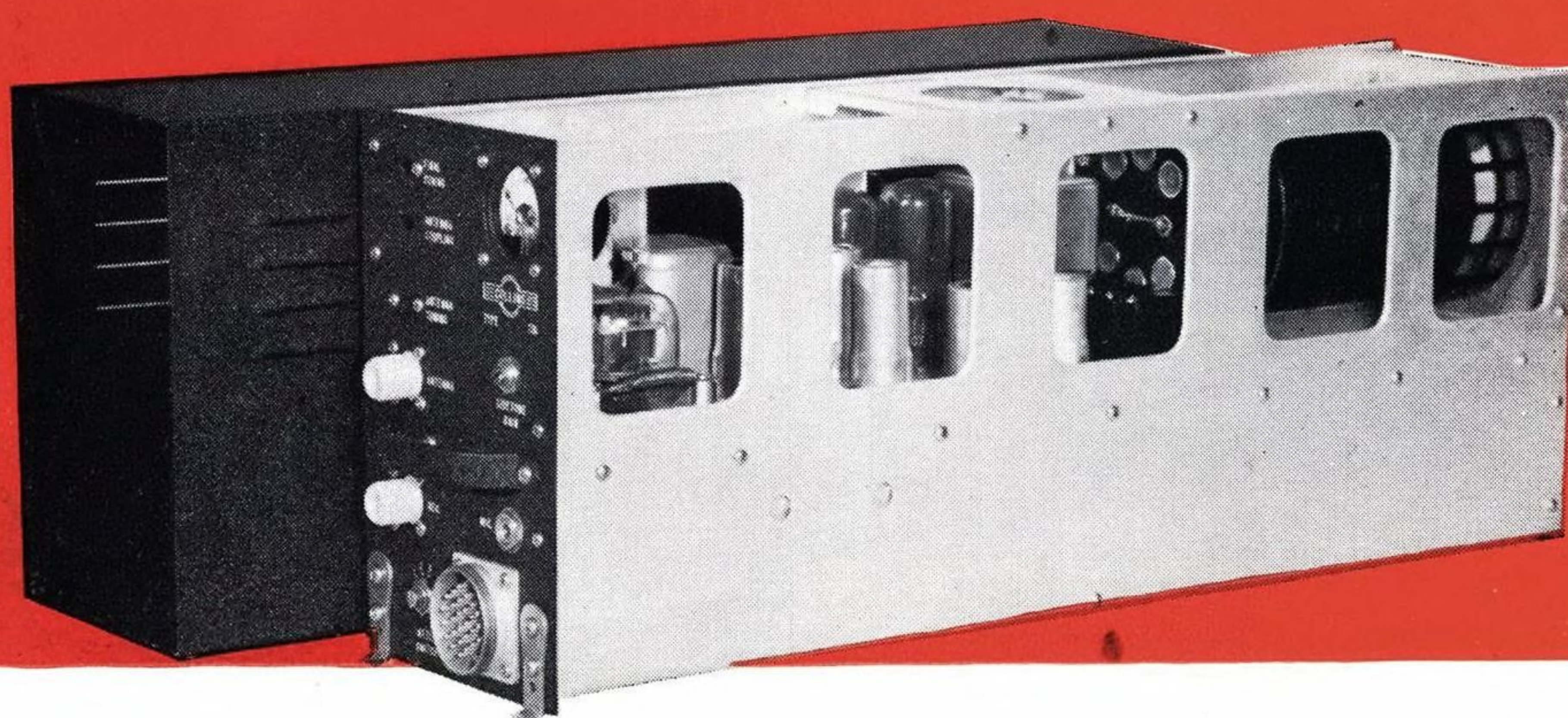
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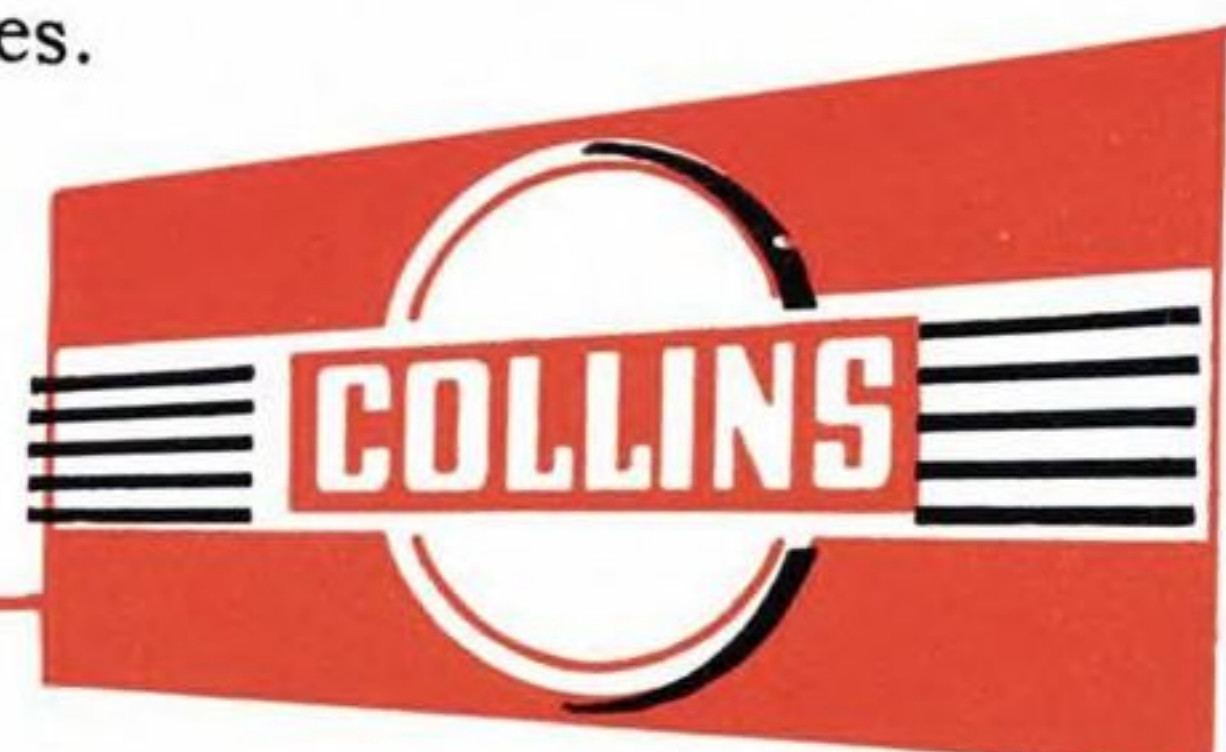
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