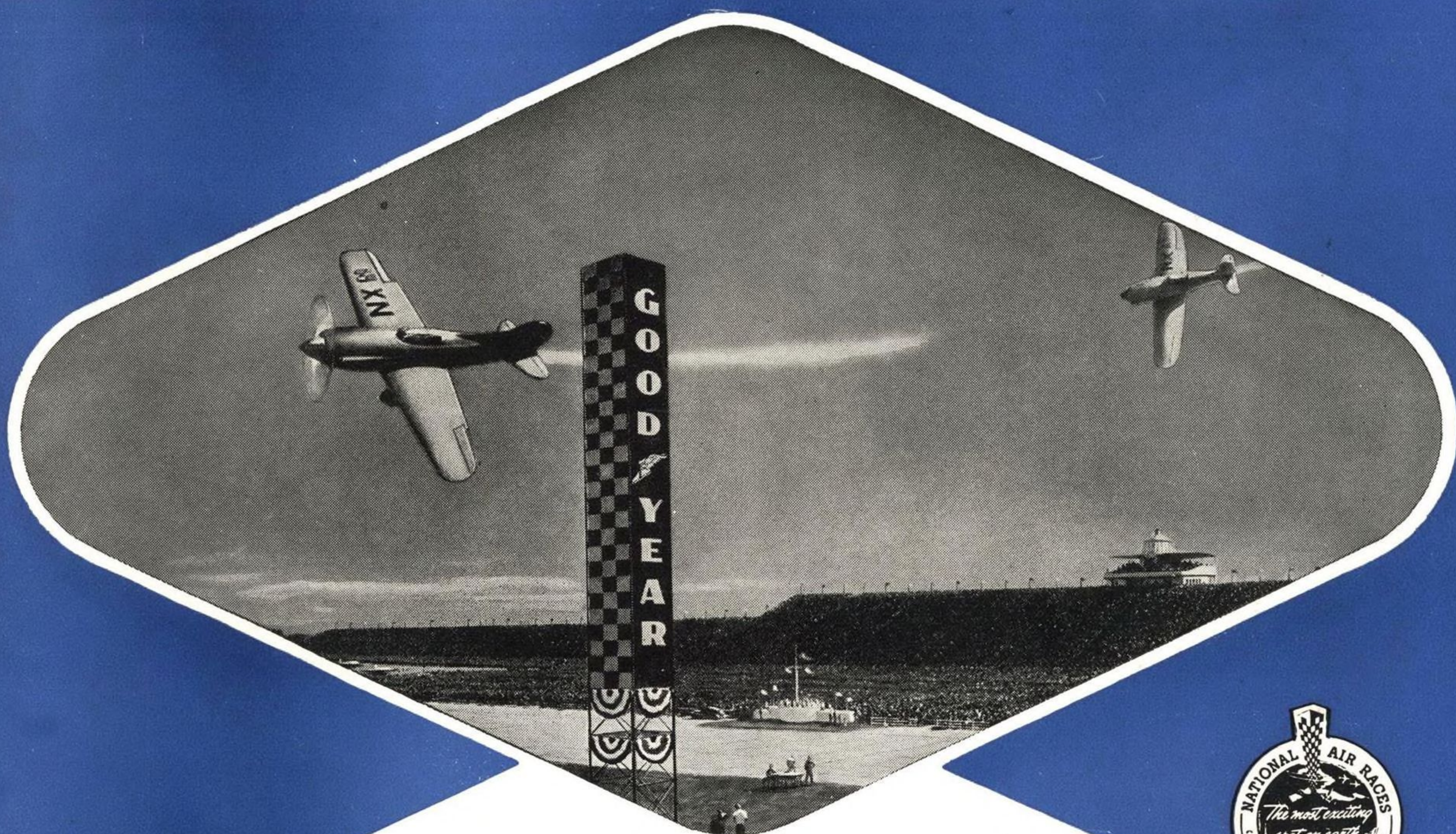


AVIATION WEEK

JULY 28, 1947

INCORPORATING AVIATION AND AVIATION NEWS

A MCGRAW-HILL PUBLICATION



In the interest of progress

To encourage public interest in the development of light aircraft, to promote progress in their engineering and to stimulate research in new designs, the

Goodyear Trophy Race with \$25,000 in prizes is being inaugurated at the National Air Races in Cleveland on August 30, 31 and September 1.

Goodyear, Aviation Products Division, Akron 16, Ohio; Los Angeles 54, California
MORE AIRCRAFT LAND ON GOODYEAR TIRES THAN ON ANY OTHER KIND



THE *New* HONEYWELL ELECTRONIC

Fuel Gage



THE TANK UNIT...

The tank unit is the fuel measuring part of the system. It consists essentially of three concentric tubes, rigidly fastened together but electrically insulated from each other. The outer tube serves as a support and protecting shield for the other two, which form the two plates of a condenser. A flange is provided at one end of the assembly for mounting the unit in the tank. The rugged construction of this unit and the absence of any moving parts or electronic components eliminate the necessity for any servicing beyond an occasional inspection.

THE POWER UNIT

Aside from the tank unit and the indicator, all electrical components are contained in the power unit which consists of an amplifier and a calibration unit mounted together on one rack. (The mounting rack is not required if a suitable shelf or rack is provided in the airplane.) The amplifier may be easily detached from the calibration unit for inspection, service, or replacement without disturbing calibration of the system. Adjustments for both *empty* and *full* calibrations are provided in the calibration unit. Full calibration is easily accomplished at the time of installation by merely connecting a standard calibrating condenser between two terminals in the calibration unit. This convenient method eliminates the necessity for filling the tanks and jacking up the wings to calibrate each installation.



THE INDICATOR

The indicator, which is designed for instrument panel mounting in a $3\frac{1}{8}$ inch opening, registers fuel quantity in gallons at 77 degrees F. The unit is powered by a midget instrument motor which positions the pointer and the balancing potentiometer through a 7745-to-1 gear train. This speed reduction prevents the indicator from responding to momentary surges and splashing of the fuel in the tank. Yet the indicator operates fast enough to follow any normal change in fuel level and is so sensitive it registers changes as small as $\frac{1}{16}$ inch. The scale on the indicator dial is $7\frac{1}{2}$ inches long and occupies five-sixths of the dial circumference. (The scale may be calibrated in pounds instead of gallons if desired.)



Minneapolis-Honeywell, Minneapolis 8,
Minnesota... Canadian Plant: Toronto 12, Ontario.



CREATIVE ENGINEERING
Makers of the famous Electronic
Autopilot, standard on all AAF
4-engined bombers.

MINNEAPOLIS
Honeywell
CONTROL SYSTEMS



Chemical Tools!

Just as you have a favorite wrench that is "tops" for a certain job, each one of these chemical tools is "tops" for a particular type of assembly.

FORM-A-GASKET No. 1 (a paste) sets fast but not too fast for use on large surfaces. It dries hard but does not become brittle. It's a swell product for making pressure-tight, leak-proof unions... even when the surfaces are warped.

FORM-A-GASKET No. 2 (a paste) sets slower than No. 1. It dries to a tough, pliable layer with plenty of "cushion". It resists high pressures, continual vibrations and disassembles very easily.

AVIATION FORM-A-GASKET No. 3 (a brushable, self-leveling liquid) sets into position and dries to a tacky paste. It will not run, even when heated to 400° F... nor will it become hard or brittle down to 70° F. below.

ALL TYPES OF FORM-A-GASKET PRESERVE ALL TYPES OF GASKETS!

3
TYPES...
EACH BEST
FOR CERTAIN
ASSEMBLIES

PERMATEX COMPANY, INC., BROOKLYN 29, N. Y.

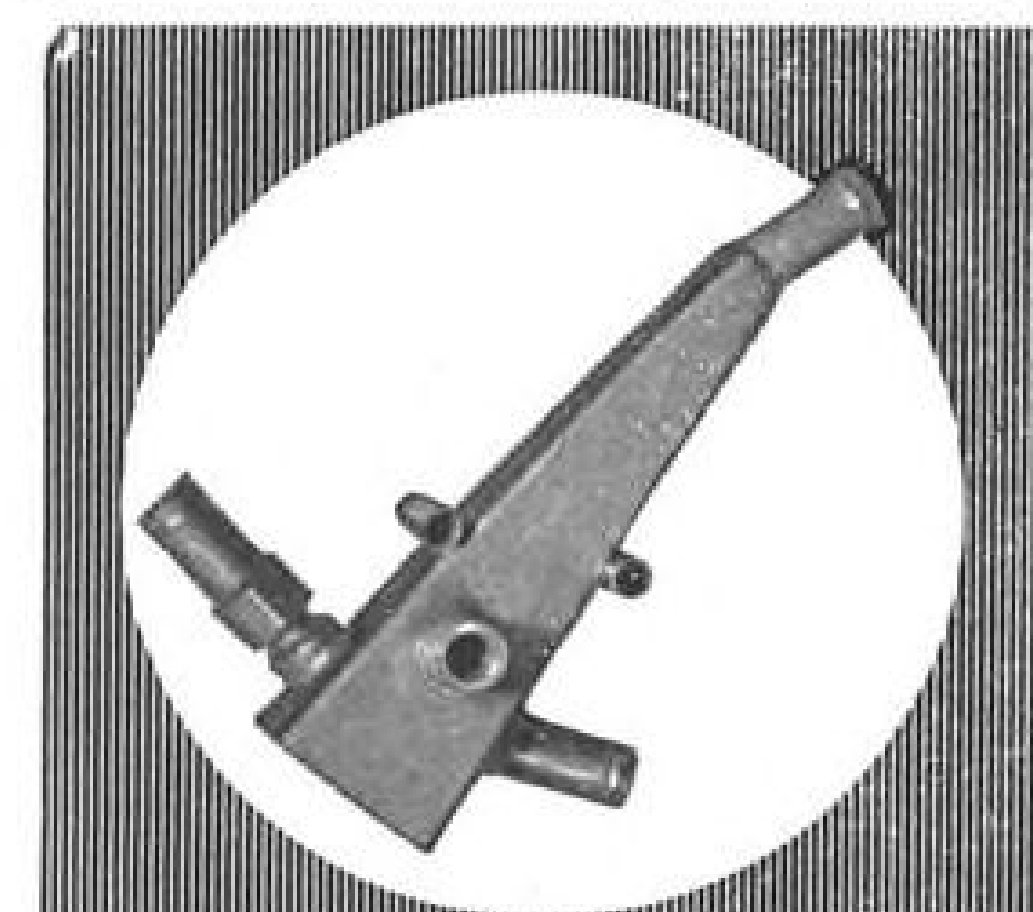


Right on the nose of the New Piper Cub Special

PIPER and SENSENICH—two great names linked again in a great new personal plane—successor to the famous J3 trainer. It's again the right combination for high efficiency and smooth performance! Swing a Sensenich and be sure!

Prompt repair service on wood propellers (all makes) at a Sensenich PROP-SHOP.

Standard of Performance
SENSENICH
Trade Mark
SENSENICH CORPORATION
LANCASTER, PA. GLENDALE, CALIF.



This type oil separator, combining high efficiency and low internal resistance, has been widely adopted, not only for military planes but on commercial ships as well. We are able to make prompt deliveries on this oil separator in any desired quantities; or we shall be glad to quote on oil separators of other types or to your own design.

MERCURY AIRCRAFT, INC.
HAMMONDSPOUT, N. Y.



PARTS
SURFACES
FUEL TANKS

AVIATION WEEK

Vol. 47

No. 4

INCORPORATING AVIATION AND AVIATION NEWS

The Aviation Week.....	7	New Aviation Products.....	35
News Digest	8	Aviation Sales & Service.....	37-40
Headline News.....	11-16	Briefing for Dealers & Dis-	
Aviation World News.....	17	tributors	40
Financial	18	Air Transport	41-46
Engineering - Production	21-35	Advertisers' Index	49
Industry Observer	23	Editorial	50

Robert H. Wood
EDITOR

John Foster, Jr.
EXECUTIVE EDITOR

Merlin H. Mickel
MANAGING EDITOR

Robert B. Hotz.....	News Editor	Albert E. Smyser, Jr.....	Engineering
Irving Stone.....	Technical Editor	Scholer Bangs.....	Pacific Coast Editor
William Kroger.....	Production	Katherine Johnson.....	Congress
Alexander McSurely.....	Sales & Service	Herb Powell.....	Special Assignment
Charles Adams.....	Transport	Blaine Stubblefield.....	Special Assignment
Erwin J. Bulbar.....	Engineering	Marie Adams.....	Editorial Assistant
Dr. J. C. Hunsaker.....	Editorial Consultant		

Researchers, F. L. Peterson, Victoria Giaculli, Anita Scaffo

Editorial Offices: National Press Bldg., Washington, D. C.; 330 W. 42nd St., New York, N. Y.

Domestic News Bureaus: Atlanta, Rhodes-Haverty Bldg., Chicago, 520 N. Michigan Ave., Cleveland, Hanna Bldg., Detroit, Penobscot Bldg., Los Angeles, 621 S. Hope St., San Francisco, 68 Post St., Houston, 514 South St. Correspondents: Boston, Buffalo, Dallas, Dayton, Denver, Indianapolis, Jacksonville, Kansas City, Knoxville, Lansing, Louisville, Memphis, Miami, Milwaukee, New Orleans, Oklahoma City, Ogden, Philadelphia, Phoenix, Pittsburgh, Portland (Ore.), St. Louis, Salt Lake City, Seattle, Wichita, and 41 other cities.

Foreign News Bureau: London, Paris, Berlin, Prague, Moscow, Shanghai, Bombay, Montreal, Ottawa, Mexico City, Buenos Aires, Correspondents in Berne, Caracas, Santiago, Peiping, Tokyo, Zurich, Rome, Cairo, Copenhagen, and over 100 other cities.

ECONOMICS STAFF

Dexter M. Keezer, Sanford S. Parker, William F. Butler, John D. Wilson.

Robert F. Boger
PUBLISHER

J. C. Anthony
MANAGER

Business Manager, J. G. Johnson Art Director, Henry Sandstrom

R. W. Martin, Jr., Sales Manager; M. J. Storz, New York; L. J. Biel, Philadelphia; V. K. Disette, Cleveland; R. F. Greene, Detroit; A. B. Martin, Chicago; W. G. Ashmore, Atlanta; J. W. Otterson, San Francisco; C. F. McReynolds, Los Angeles. Other sales offices in Pittsburgh, St. Louis, Boston and London.

McGraw-Hill Publishing Co., Inc., Publishing Office, 99-129 N. Broadway, Albany, N. Y. Return postage guaranteed. Editorial and executive offices: 330 W. 42nd St., New York 18; Chicago, 520 N. Michigan Ave.; San Francisco, 88 Post St.; Aldwych House, London, W.C. 2; National Press Bldg., Washington, D. C.; Architects Bldg., 17th & Sanson Sts., Philadelphia 3; Hanna Bldg., Cleveland; 2980 Penobscot Bldg., Detroit; Continental Bldg., St. Louis; 1427 Statler Bldg., Boston; Rhodes-Haverty Bldg., Atlanta; 621 S. Hope St., Los Angeles; 738-9 Oliver Bldg., Pittsburgh. JAMES H. McGRAW, Founder and Honorary Chairman; JAMES H. McGRAW, Jr., President; CURTIS W. McGRAW, Senior Vice-President and Treasurer; JOSEPH A. GERARDI, Secretary; NELSON BOND, Director of Advertising; EUGENE DUFFIELD, Editorial Assistant to President; J. E. BLACKBURN, Jr., Director of Circulation. . . . Aviation Week, 330 W. 42nd St., New York 18. Published weekly, price 50¢ a copy, 50¢ in Canada. Allow at least 10 days for change of address. Address all communications about subscriptions to Director of Circulation, 330 W. 42nd St., New York 18, New York. Subscription rates—United States and possessions, \$5.00 a year, \$8.00 for 2 yr., \$10 for 3 yr. Canada, \$6 for 1 yr., \$10.00 for 2 yr., \$12.00 for 3 yr., payable in Canadian currency at par. Pan American countries, \$10 for 1 yr., \$10 for 2 yr., \$20 for 3 yr. All other countries, \$20 for 1 yr., \$30 for 2 yr., \$40 for 3 yr. Please indicate position and company connection on all subscription orders. Entered as second class matter Sept. 3, 1936, at Post Office, Albany, N. Y., under Act of March 3, 1879. Volume 47, Number 4. Printed in U.S.A. Cable address, "McGraw-Hill New York." Member A.P.C. Copyright 1947, McGraw-Hill Publishing Co. Aviation Week is indexed in "Reader's Guide to Periodical Literature" and in "Industrial Arts Index." Following publications are combined with AVIATION WEEK: AVIATION, AVIATION NEWS, AERONAUTICAL ENGINEERING and AIRCRAFT JOURNAL. All rights to these names are reserved by McGraw-Hill Publishing Co.

ALL HANDS POINT TO GLENGARRIE POPLIN!



Look for this Label in Your Uniform, Utility and Work Shirts!

YOUR FIRST CHOICE in securing the highest quality uniform shirts is to choose the right fabric. Specify Glengarrie Poplin and you are sure to get the best.

Glengarrie Poplin is a fine, high-count, combed yarn shirting. It's Sanforized® to permit for maxi-

mum shrinkage and its vat dyed colors are fast to sun, water and perspiration.

It saves you money and guarantees that your shirts will still look smart after wear and washing. Demand Glengarrie Poplin for shirts that are right on the job. *Residual shrinkage less than 1%.

THE REEVES FABRIC GROUP INCLUDES:

Reeves Army Twill • Reeveking Gabardine
Glengarrie Poplin • Marine Herringbone
Byrd Cloth • Warrior Twill • Mountain Cloth
Pima King Broadcloth

MADE OF FINE COTTONS

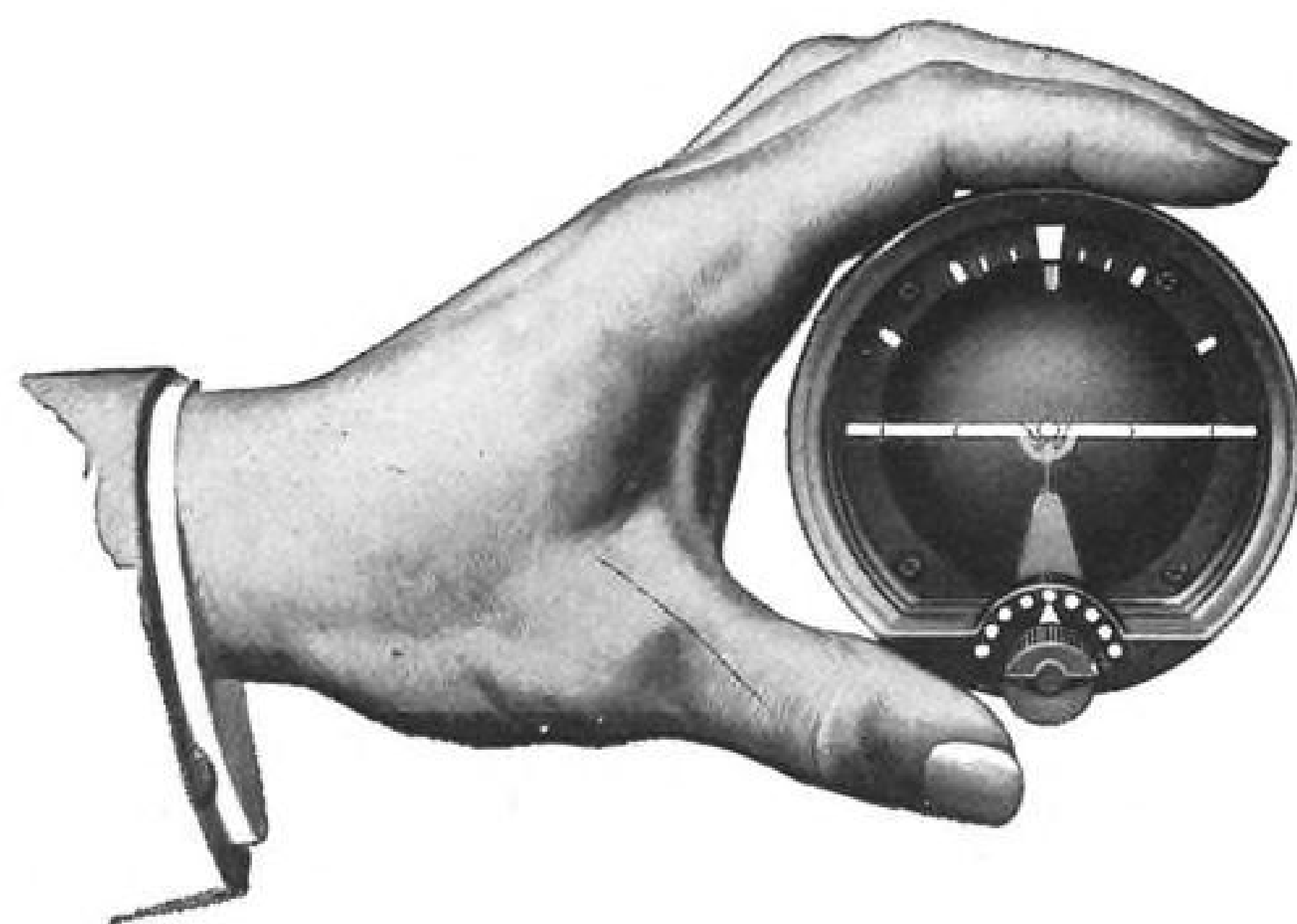
REEVES BROTHERS, INC.

54 WORTH STREET, NEW YORK 13, N. Y.



REPRESENTATIVES IN: Akron • Atlanta • Boston • Chicago • Dallas • Los Angeles • Philadelphia • Portland, Ore. • St. Louis • Montreal • Toronto

AVIATION WEEK, July 28, 1947

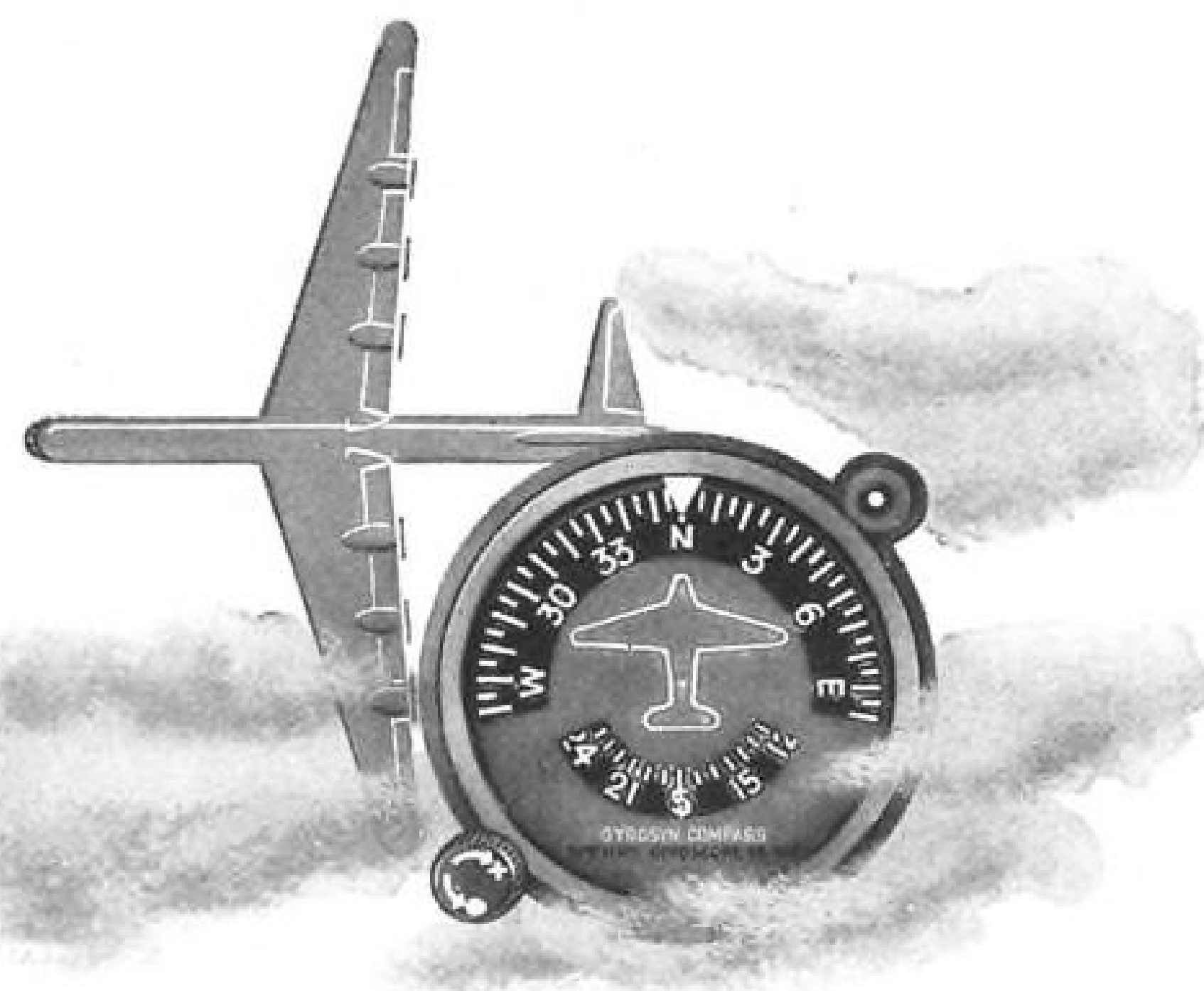


The new Sperry H-3 Gyro-Horizon...

This small-size electric flight instrument provides the same attitude indication that has been universally accepted. In addition, the Model H-3 has increased pitch sensitivity to aid the pilot in maintaining precise attitude control under conditions of poor visibility or "blind flying."

...paired with the new Sperry C-2 Gyrosyn Compass...

This dependable team mate of the Gyro-Horizon is the pilot's pathfinder. It synchronizes with the earth's magnetic field to give extremely accurate directional indications under all conditions of air turbulence. Equipped with either rotating dial or pointer indicator.



...can be grouped for pilot's convenience

These new Sperry flight instruments adapt readily to modern instrument grouping, have no flight limitations, are non-tumbling, need no caging devices. Designed for standard 3 1/4 inch panel cut-out, wholly electric (AC), free of brushes. Simple, compact, light-weight, precision-built.

AND IN THE MARINE FIELD, Sperry Gyro-Compass is paired with Sperry Gyro-Pilot to set a ship on the straightest, shortest course, then steer that course automatically.



Sperry Gyroscope Company, Inc.

EXECUTIVE OFFICES: GREAT NECK, NEW YORK • DIVISION OF THE SPERRY CORPORATION
NEW YORK • CLEVELAND • NEW ORLEANS • LOS ANGELES • SAN FRANCISCO • SEATTLE • HONOLULU

THE AVIATION WEEK

EVERYBODY IS IN THE ACT—It looks like 1934 again, when aviation was caught in a titanic squeeze between political factions. Once again aircraft manufacturing and air transport are in the crossfire, innocent bystanders with everything to lose.

Rivalry between the White House and Capitol Hill is waxing hotter. Aviation's great ability to draw the headlines makes it the prey of publicity seekers with political motives. Climax was Truman's appointment of a commission of well known citizens to deliberate and recommend long-range aviation policies. The group was announced while Congress was still considering bills for a national air policy board.

The White House is trying to beat Congress to the punch on aviation issues.

The same conflict is apparent in improving air safety.

Investigator Dolan of the Brewster Committee beat CAB to the draw with his report blaming the LaGuardia accident on pilot error. CAB's report late last week was up before the Board for signature.

Meanwhile, the President's Air Safety Board jumped the gun on both Senate and CAB by urging revisions in the transport regulations.

STRESS IMPORTANCE—Both the President's Safety Board and the new Air Policy Commission will work at top speed to take advantage of the Congressional recess. So will Senator Brewster. This is why Chairman Landis overruled request of his fellow members on the Truman board for summer adjournment.

For about six months, the Air Coordinating Committee through its industry advisory panel, has been working on a new national aviation policy statement. Among other things, it stresses importance of U. S. aid in developing transport aircraft.

Meanwhile, Congress was shadow-boxing with an idea for a board. Concurrently, Truman began taking a deeper interest in air safety and aviation economics. It appears that CAB chairman Landis was an active adviser. One result was appointment of the special safety board. That left the matter of economics.

The spotlight next swings to ACC, and a letter June 16 to Truman from ACC co-chairman Garrison Norton, of the State Department, discussing problems of the aircraft manufacturers in relation to national security. Norton asked the President to appoint a board.

Meanwhile, a House Bill gained favor merely giving ACC statutory authority. A Senate Bill called for a temporary board with congressmen, industry and government officials as members.

When it appeared that agreement on the Senate version was certain, Sen. Brewster went to the White House. The President made no objection to a group

originated by Congress but told Brewster he thought a survey by an independent commission would be valuable too.

At the eleventh hour, Congressional action took the form of a joint Senate-House committee. Thus, two commissions will be at work on the same problem during the next five months.

Everyone in aviation prays for economic stability and public safety. The more experts who devote their abilities to these ends the better. But at this point rivalries between the two groups appear inevitable and ominous.

HOW BIG A ROLE WILL POLITICS DEMAND?

—One thing does appear clearer than ever. James M. Landis, as chairman of the Truman safety commission, will work closely with the new Truman air policy committee. In this dual role he becomes the most important man in commercial aviation, the spearhead of the White House campaign. Intimates say he won't resign until he has seen the year through, rumors notwithstanding.

LIGHTPLANES KEEP SLUMPING—Summer slump in lightplane sales has continued through July. Manufacturers' shipment figures may drop below those for June. Actually, summer doldrums are nothing new. Major sales have always been recorded in the spring. Look at your prewar sales records for proof. Customer interest always slackens as good flying season nears and passes the halfway point.

Both Republic and Waco denied West Coast rumors that Marchev was leaving Republic to join Waco to take over the Seabee. Waco's Aristocraft was abandoned recently. Seabee is out of production during vacation period.

ATLANTIC BUSINESS SLIPS—Meanwhile, trans-Atlantic competition gets hotter. U. S. flag carriers who reported recently that they were booked up till fall are suddenly beating the bushes for business.

Overall traffic has dropped. Nobody knows exactly why. Maybe inexperience makes it impossible to plot busy seasons. Drop-off isn't due to accidents.

Foreign lines are capitalizing heavily on "Old World courtesy and cuisine." Some are using more luxurious American aircraft than our lines. With fares fixed on an international basis, we can't cut rates.

So our brothers across the sea are making up in frills and creature comfort for what they lack in operating efficiency. U. S. airline men say the Scandinavians, Dutch and British, in that order, are doing the best operation and maintenance. The Belgians (SABENA) and French (Air France) are probably the worst. But the American public doesn't inquire too much about technicalities which are not mentioned in the ads.

New Type Herman Nelson PORTABLE VENTILATOR

(With blow-through or draw-through action)

Solves many ventilating and cooling problems in:

- | | | |
|--|---|---|
| <input type="checkbox"/> Welding Booths | <input type="checkbox"/> Airplane Hangers | <input type="checkbox"/> Dust Removal |
| <input type="checkbox"/> Refrigerator Cars | <input type="checkbox"/> Small Boats | <input type="checkbox"/> Field Repair Shops |
| <input type="checkbox"/> Smoke Removal | <input type="checkbox"/> Shipholds | <input type="checkbox"/> Storage Tanks |
| <input type="checkbox"/> Tunnels | <input type="checkbox"/> Engine Rooms | <input type="checkbox"/> Airplanes |
| <input type="checkbox"/> Manholes | <input type="checkbox"/> Paint Spray Booths | |
| <input type="checkbox"/> Warehouses | | |



Write for complete
details and prices.

This light-weight, high-powered, portable ventilating fan is easily wheeled from place to place. Two-way air flow permits drawing smoke, dust or gases from area, or supplying fresh, cooling air to spot desired. Equipment includes one 14" diameter by 16' length collapsible canvas duct. Powered by gasoline engine or electric motor.



THE HERMAN NELSON CORPORATION
MOLINE, ILLINOIS



The RUSCO Tog-L-Lok Seat Belt . . .

A product of RUSCO, makers of famous automotive products. This belt is considered "Standard" for light planes and is C.A.A. approved for 2000 lb. loads. Six features make it outstanding.

- | | |
|--|---|
| 1. Instant, positive action . . . to lock or unlock simply throw lever. | 4. Lightness . . . 60" belt assembly weighs 12 oz. |
| 2. Dependability . . . Positive Toggle Grip—2000 lb. C.A.A. Test. | 5. Fool-proof, plastic tip . . . nothing to pull off, nothing to fray. |
| 3. Simplicity . . . Instantaneous adjustment and release. | 6. Shock resistance . . . no treacherous slipping. |

See your aircraft supply house or our nearest branch office.



The RUSSELL MANUFACTURING Co. Middletown, Conn.

New York, 420 Lexington Ave.
Chicago, 549 E. Illinois St.

Detroit, 3-250 General Motors Bldg.
San Francisco, 632 Polk St.

NEWS DIGEST

DOMESTIC

Braniff Airways and Northwest Airlines have signed new contracts with Airline Pilots Association covering both domestic and overseas operations.

Kenneth C. Royall, New Secretary of War, succeeds Robert P. Patterson. Royall was formerly Under-Secretary of War.

Boeing B-29 Super Fortresses, in a mass flight of more than 100 planes will fly over Chicago, Detroit, and St. Louis in an Air Force Day display, Aug. 1, while on the same day eight other B-29s are making a one-stop flight from Tokyo to Washington, and 30 other B-29s are returning from Germany where they went earlier this month on a training flight.

W. N. Bartlett, Portland, has been named Oregon State Director of Aeronautics, succeeding Leo G. Devaney, resigned. Bartlett was formerly planning engineer for the Oregon State Postwar Development Committee.

Rio Grande Valley International Airport, Brownsville, Tex. has been made a station for Mexican Customs and Immigration personnel, to simplify tourist flight clearance into Mexico.

Michigan Department of Aeronautics planes have started aerial patrols over the state, to curb reckless flying including violations of the Michigan minimum altitude of 500 ft. over both land and water.

Edgar N. Gott, San Diego, onetime president of Boeing Airplane Co., and later vice-president of Fokker Aircraft Corp. of New Jersey, president of Keystone Aircraft Corp., Bristol, Pa., and vice-president of Consolidated Vultee Aircraft Corp., San Diego, died at San Diego after a long illness at the age of 60.

FINANCIAL

Pan American World Airways System reports a 40 percent increase in gross revenue, for the first five months of 1947, over the corresponding period in 1936.

Hawaiian Airlines will issue stock for an additional \$2,000,000 capital to construct improved terminal facilities, replace present flight equipment and provide more working capital.

FOREIGN

British Overseas Airway Corporation planes will refuel in midair for the London-Montreal flights, to fly the trip non-stop, beginning in October. Refuelling points will be at Shannon Airport and Newfoundland.

Abel Shaban, described as Africa's youngest millionaire, is planning to start a new airline between South Africa and Great Britain, and is in London working on the project. British press reports he controls 30 African companies, with combined capitalization of approximately \$80,000,000.



Now you can do the things
you've only dreamed about!

THANKS TO THE PLANE THAT GIVES YOU *More for your Money!*

There's no end to the far-away places you can visit—the exciting things you can see and do—when you own a shiny new Cessna 140 or 120!

For here, at last, are practical, 2-place, cross-country airplanes . . . at light "training plane" prices (only \$3245 and \$2695* f. o. b. Wichita). Both give you over 120 m. p. h. top speed, 450-mile non-stop range, all-metal structure and many comfort and safety "extras". Anyone who can drive can learn to fly them. And gas, oil, service and depreciation run about the same as on a family car. Convenient time payments. See them!



All Aboard for points West! There's plenty of room for luggage (up to 80 lbs.). Or a comfortable seat for children can be installed easily in Cessna's roomy luggage compartment.



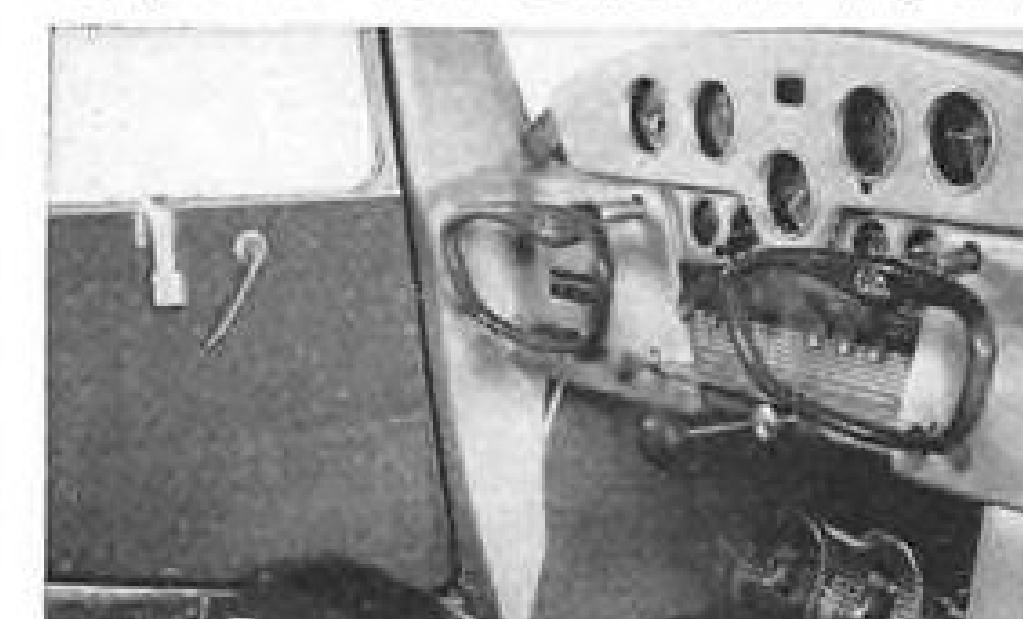
Trips like this are easy in a Cessna. Owners report they average nicely over 100 m. p. h. and get over 20 miles per gallon from the 25 gallons of fuel in Cessna's twin wing tanks.



More comfort for your money! Beautiful upholstery. Adjustable foam rubber seats. Directional ventilation. New sound-proofing which permits normal conversation in flight!



More safety, too! Cessna's patented safety landing gear absorbs shocks—helps smooth rough fields. And the 140 is equipped with full-range wing flaps for safer landings.



Cessna's beautiful instrument panel is shock-mounted for longer instrument life, greater accuracy. Note extra leg room, too, in the comfortable Cessna cabin.

Also See the New
CESSNA 195 and 190
AIRLINE SPEED,
AIRLINE COMFORT

in Your Own 4—5 place Personal or Company Plane!



Big, fast, luxurious . . . yet surprisingly economical to own and operate! Both are all metal. Both have the famous Cessna cantilever wing and patented safety landing gear. The 195, equipped with a 300 H. P. Jacobs Engine, has a top speed of

over 180 m. p. h.—a range of over 700 miles—carries 200 lbs. of luggage. (Or five people, if you're traveling light.) The 190 offers comparable performance with a 240 H. P. Continental Engine. Ideal for personal or charter use.

*The 120 is the ideal training and utility plane. Less luxurious than the 140 and not equipped with starter, battery, generator or flaps.

Cessna
THE PILOT'S AIRPLANE

MAIL THIS COUPON NOW..

Cessna Aircraft Company, Dept. A, Wichita, Kansas

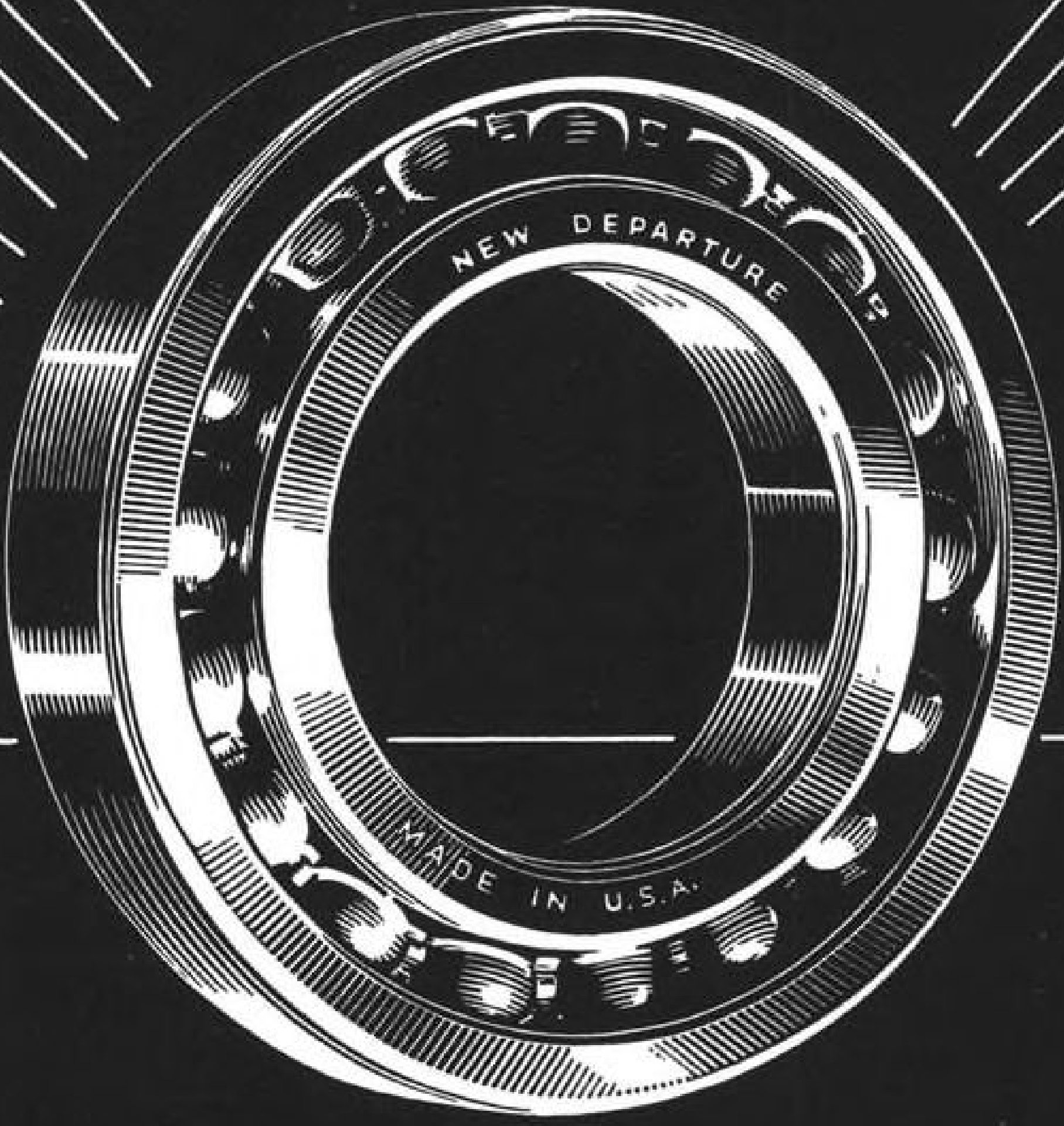
Please send free literature giving complete description of the Cessna 190, 195 ☐ Cessna 120, 140 ☐ Additional material for model builders ☐

Name

Street No.

City

County State



The ball bearing
is a "natural"
for lower costs

LOWER manufacturing costs are very definitely a function of New Departure ball bearings.

The ball bearing is a "natural" for the higher speeds, greater rigidity and improved quality of product so demanded

by today's exacting production standards.

An investment in machines of modern ball bearing design is an investment in faster production — *lower costs!*

New Departure's technical literature is most helpful. Tell us your needs.

NEW DEPARTURE BALL BEARINGS

3481

NEW DEPARTURE • Division of GENERAL MOTORS • Bristol, Conn. • DETROIT, CHICAGO, LOS ANGELES and other Principal Cities

Truman Board, Congress Group Will Probe Aviation Industry

Rival investigations aimed at formulating new U.S. air policy; have Jan. 1 deadlines.

A surprise Presidential Air Policy Commission began preliminary organizational efforts last week, beating to the punch Congressional exponents of an Air Policy Board and leaving the industry which has long wanted such a group wondering if it is to be caught in the middle of a political fight.

The President appointed his five-man temporary body to make an inquiry into aviation policies and problems just at the time when it appeared Congress was on the point of enacting a law establishing a 12-member board to perform approximately the same function. The aircraft industry had supported the bills in the House (Hinshaw) and in the Senate (Brewster), and the President gave no indication he was not in favor of the legislation.

► **Congressional Board**—The Congressional board would have been appointed by the President and composed of members of Congress, of the Executive Departments and of industry, with a deadline of Jan. 1, 1948 for its report. The President's group consists of non-government men, only one of whom has an aviation background, and must also report by Jan. 1.

Following appointment of the President's Commission, members of House and Senate Interstate and Foreign Commerce Committees last week abandoned efforts to complete action on the Air Policy Board, and instead pushed through a resolution to set up a joint committee to study aviation during the Congressional recess. This would be titled the Temporary Congressional Aviation Policy Board and be composed of five Senators and five Representatives.

This Course was determined also by the fact that Sen. Owen Brewster, in the conference committee of the two houses that was handling the air policy bill, attempted to get the chosen instrument issue included in the scope of the board's study.

► **Jaundiced View**—Privately, some air-minded members of Congress cast a jaundiced eye on the Presidential Commission. They have two major criticisms; one, the commission is composed of men with little or no knowledge of aviation; two, it has no Congressional representation. Illustrating the cleavage in thinking, those two points are considered as constituting the Commission's chief value by those instru-

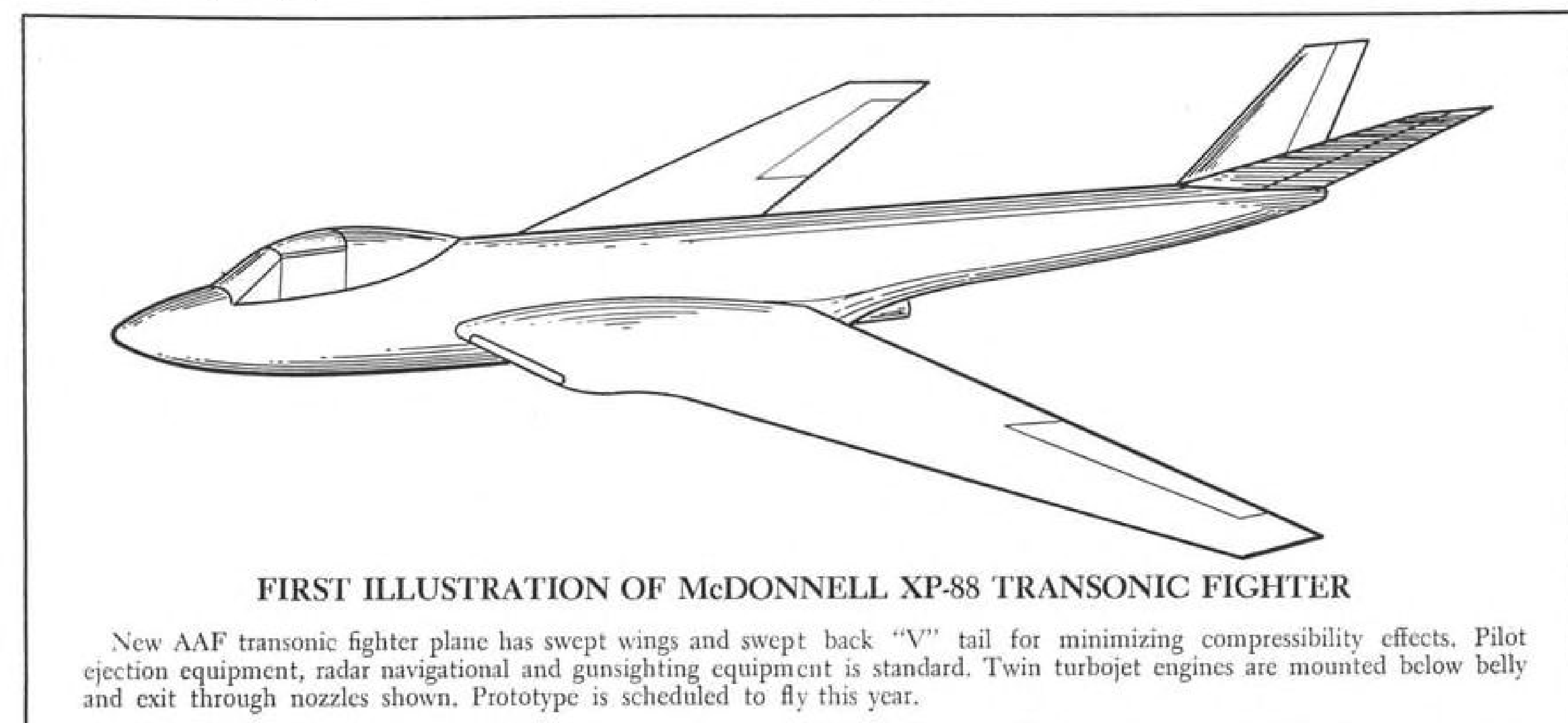
mental in having urged its establishment.

Because the Congress is Republican, and the executive branch Democratic, that cleavage reflects political thinking. This leaves the aircraft industry the task of assembling data for two different groups that may, or may not, follow the same approach to the problem. Under such circumstances, industry representatives believe it would be very easy to offend unwittingly either the Congressional, or the Presidential inquiry.

► **Norton's Suggestion**—The President established his commission at the suggestion of Garrison Norton, acting for the Air Coordinating Committee of which he is co-chairman. CAB Chairman James M. Landis, the other ACC chairman, is understood to support wholeheartedly the Commission plan, but left it to Norton to push in view of Landis' heavy commitments on CAB and the special air safety time.

ACC has felt for some time that an independent survey of the entire aviation situation is needed. It could not see where the utmost value could be drawn from an investigation by a board composed of members of Congress and of the government departments handling aviation. The board proposed by Congress would have been composed of agency heads.

According to Norton, who also is an Assistant Secretary of State, ACC has been able to bring together all thinking on aviation in the various executive departments, and coordinate that with Congressional



handling of aviation matters. The result is what he terms government policy on aviation.

► **Want Scrutiny**—Behind the formulation of the President's Commission is the desire to have this government policy on aviation subjected to the unbiased scrutiny of men expert in more general fields. Norton, and William C. Foster, Undersecretary of Commerce and Acting Replacement for William A. M. Burden on ACC, submitted a list of names from which the president selected:

- **Thomas K. Finletter**, Chairman, a 53-year-old New York attorney, former special assistant to Secretary of State, specialist in international and corporation law, and author of several books on corporate reorganization and bankruptcy.

- **George P. Baker**, vice-chairman, now professor of transportation at Harvard University. A former Vice-Chairman of CAB (1942), he was a colonel in World War II, and is 43 years old.

- **E. Palmer Hoyt**, 50-year-old Publisher of the Denver Post, for many years with the Portland Oregonian and during the war deputy director of the Office of War Information.

- **Henry Ford II**, Detroit, the 30-year-old president of Ford Motor Co. who in two years in the top job of one of the largest industrial empires has completely re-organized the company and strengthened its competitive position.

- **Arthur D. Whiteside**, New York, at 64 the oldest member of the Commission. President of Dun & Bradstreet, he is an authority on finance and credit.

To these men, ACC will submit its newly-framed air policy statement, which has been drafted by a subcommittee and was expected to be approved by the full group last week. It will also give to the commission, when ready, the Stanford University revision of the 1945 Report on the Aircraft Industry. These will furnish the working tools of the Commission.

Chairman Finletter last week told AVIATION WEEK that, while it was still too early to announce definite plans—especially as he had not yet met the other members of the group—he expected that the commission would appoint an executive director or secretary, and have experts for such phases as production, transport and legal. He would prefer personally that the executive director be from outside the government.

► **Headquarters Set**—Under the terms of the President's appointment, the Department of Commerce will furnish headquarters and staff assistance, and Finletter already has an office in the Commerce building. He was to meet with Baker and Whiteside in Washington last week.

As an indication of the possible nature of the Commission's survey, Finletter stated he was examining the records of the Federal Aviation Commission of 1934. This was the five-man body established by Congress and appointed by the President after the cancellation of the air mail contracts.

Chairmaned by Clark Howell, Atlanta, Ga., publisher, and with Dr. Edward P. Warner as vice-chairman, it carefully examined every aspect of aviation and reported back to Congress with 102 specific recommendations—few of which were ever followed.

Senate Group Will Probe Hughes' Deals

The Senate's War Investigating Committee, headed by Sen. Owen Brewster (R., Me.) will spring into post adjournment activity with hearings on government negotiations with Henry J. Kaiser and Howard Hughes in connection with the Kaiser-Hughes giant flying boat and the Hughes reconnaissance plane, scheduled to start July 28.

The Hughes investigation has been assigned to a subcommittee headed by Sen. Homer Ferguson (R., Mich.) which, it is understood, will aim to ascertain what, if any, political pressure was brought to bear through Elliott Roosevelt in the awarding of the initial government investment of \$18 million in the Kaiser-Hughes flying boat and what, if any, political favors were conferred upon Hughes in the development of his D-2, D-5, and F-11 reconnaissance planes.

► **Truman Involved**—President Truman figures in the proceedings as Chairman of the Senate Committee which in 1943 afforded Kaiser a sounding board for drumming up public support for the giant flying boat project. Kaiser later obtained the \$18 million from the Reconstruction Finance Corporation for the project, despite the opposition of the Army Air Forces and the Navy.

Last week, the Senate's Brewster Committee, which already had its investigators scrutinize Hughes' files in Southern California, served a subpoena on the estate of the late President Roosevelt, requesting the following:

(1) Memorandum, dated July 7, 1942, from the late President Roosevelt to Lt. Gen. H. H. Arnold, together with an unsigned note written in longhand dated June 27, 1942, attached to the memorandum and concerning Mr. Hughes.

(2) Memoranda, dated July 8 and July 27, 1942, from Lt. Gen. Arnold to the late President Roosevelt, concerning the Hughes twin-motored bomber.

(3) All correspondence between the late President and members of his family and the White House staff relating to Hughes, the HK-1 flying boat, or the Hughes reconnaissance planes.

(4) All correspondence between the late President, members of his family, or the White House staff and officials of the RFC, the War Production Board, War Department or other government agency, relating to the Hughes projects.

(5) All correspondence between the late President, members of his family, or the White House staff to or concerning Kaiser.

Superforts Planning Precision Arrivals

Crossing of an imaginary finish line at a precise, predetermined time after a 7,000-mile flight is the challenge to eight Boeing B-29 Superfortress bomber flight crews in a projected Tokyo-Anchorage-Washington, D. C. flight as part of the nationwide Air Force Day celebration.

Critical moment of the flight will be when the formation passes between Washington Monument and Lincoln Memorial in Washington, D. C. precisely at noon Aug. 1.

The flight is scheduled to leave Tokyo at 1:30 A.M. EDT July 31 and to land at Elmendorf Field, Anchorage, Alaska 15 hr. 48 min. and 3,575 miles later. A maximum of three hours will be allowed for refueling and the 3,540-mile hop to Andrews Field, Maryland, AAF Strategic Air Command headquarters, will require 15 hr. 36 min.

Containing a 20-man crew, including spare pilots and navigators to relieve duty crews as required, each of the B-29's will fly line astern about 4½ miles apart until they reach the Martinsburg (W. Va.) radio area, where they will move up into formation for the flight over Washington. The flight is a routine transfer of the unit, which has been standard AAFSAC practice for nearly a year. Monthly rotation of B-29 crews in Tokyo has provided thousands of hours of Tokyo-Alaska training time for planes and crew and the 7,000-mile flight will introduce only one new element—precision of timing—into the operating techniques now employed.

Fleet Suspends Personal Plane Production Program

Slackening of customer demand for personal planes in Canada as well as in the U. S. is indicated by decision of Fleet Manufacturing & Aircraft Ltd., to suspend production of the Fleet Canuck, high-wing two-place monoplane, at the Fort Erie, Ontario plant. Deliveries will be made out of inventories already on hand, with production resumption depending on when the stocks are exhausted and the demand, Thomas Y. Smith, managing director, announced.

At peak production last year the plant employed approximately 600. This spring approximately 250 were employed and the number has now shrunk to 175. Smith said the letdown in operations has been cushioned by sub-contract work for other companies.

Shareholders of Fleet Aircraft Ltd., which sold its assets to Fleet Manufacturing & Aircraft, Ltd., last August, are considering liquidating the former company and surrendering its charter at a special meeting to be called soon.

Mooney Prototype Has Fast Climb

Recent flight tests show engineering development of the prototype Mooney M-18 single seater has raised the rate of climb to 500 ft./min. although the little Crosley automobile engine, which powers the plane is only rated at 25 hp.

President Al W. Mooney, of Mooney Aircraft Co., Wichita, says the engine has produced as much as 35 hp. and he expects to get between 28 and 30 hp. in a production plane, with suitable propeller. Four new-design Goodyear wedge belts transmit power from engine to propeller at a 2.05 reduction ratio from the engine's 4500 rpm. Engine, plus accessories weighs 98 lbs. (See engine photo.)

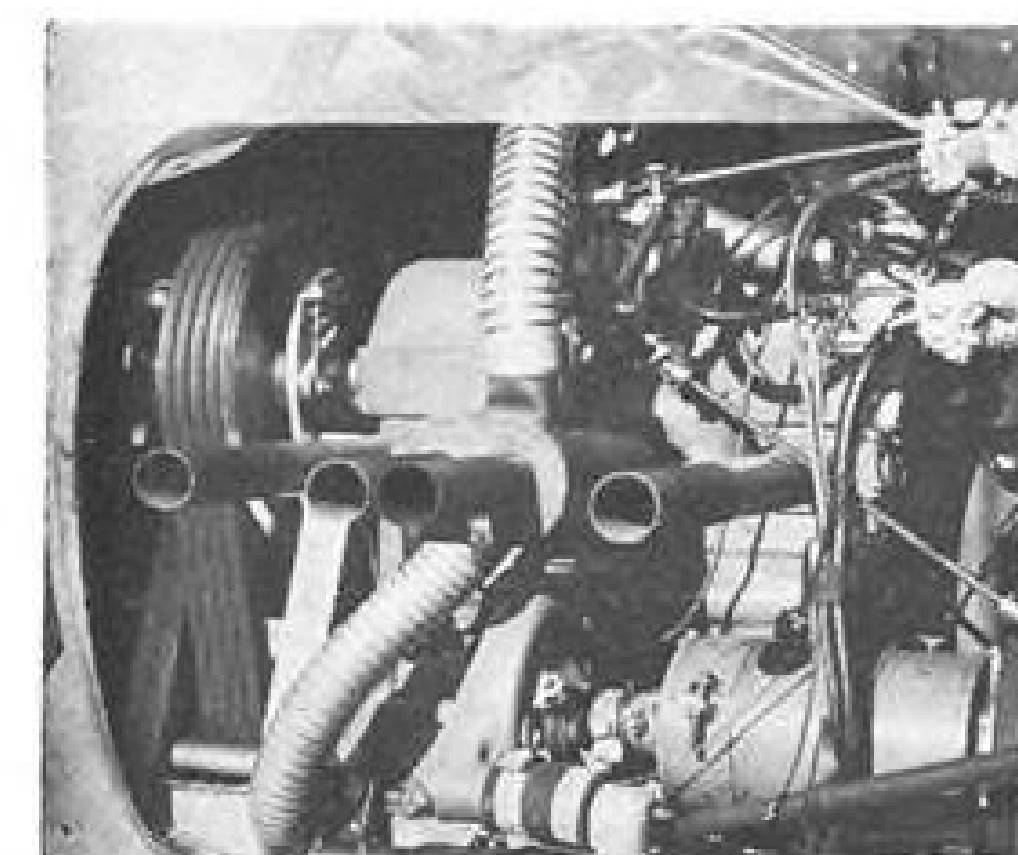
► **Flight Tests**—In flight tests at Wichita municipal airport plane reportedly has flown to 13,000 ft. ceiling, later is expected to reach 18,000 ft. M-18 cruises at 90 mph. with fuel consumption of only 1½ gal./hr. using 80 octane gasoline. Top speed is reported over 100 mph.

In an effort to hold down experimental costs prototype is composite construction, using wood and fabric in wing, all-metal nose, and plywood aft of cockpit in fuselage and tail. Company now plans to build a "moderate quantity" of M-18s at a plant near the Cessna Wichita plant, beginning in August. These will be pilot models, for trial by dealers and distributors, before full production begins.

► **New Market**—A large new market of would-be flyers who can't afford today's lowest priced planes offers prospects for the Mooney plane, which "must sell for under \$1,500," the president says. Test model does not have starter or manifold. Production model will have manifold and possibly a mechanical hand starter, but will not use electric starter.

Other engineers have tried periodically to use automotive engines in lightplanes, but have abandoned the effort after costly, futile experiments. Mooney's adapted powerplant, he reports has already made 150 hr. test block run with only two exhaust valves replaced.

If his powerplant proves successful in quantity usage the novel arrangement may be followed by other manufacturers.



FOUR BELTS Drive Propeller



\$1,500 OR LESS for Mooney Single-seater



LINE'S RESEMBLE Culver Target Planes



COMPOSITE METAL and Plywood Construction

New Procurement Policies Are Slated

Two measures, modernizing and streamlining outmoded procurement practices of War and Navy Departments and the Coast Guard, last week were slated for enactment before the July 26 date set for Congressional adjournment.

One bill would strike out two provisions of the Vinson-Trammell act of 1934: the requirement that 10 percent of all Naval aircraft be procured from government-owned plants; and profit limitation of 12 percent on Naval and Military aircraft contracts.

The other measure, sponsored by Chairman Chan Gurney (R., S.D.) of the Senate Armed Services Committee and Chairman Walter Andrews (R., N.Y.) of the House Armed Services Committee, codifies and modernizes laws, rules, and regulations relating to War, Navy, and Coast Guard procurement that have accumulated over a century. While laying down a policy of competitive bid contracts, with awards going to the lowest bidder, the legislation gives legal sanction to negotiated contracts under specified circumstances. These are enumerated as follows:

(1) During a national emergency, or if public exigency will not permit delay incident to advertising for competitive bids on contracts.

(2) If aggregate amount of a contract does not exceed \$1,000, or if a contract is for personal or professional services.

(3) On contracts with educational institutions for training personnel.

(4) On contracts for experimental, developmental or research work or supplies for such work. Each agency head would be required to file reports with Congress at six month intervals listing and describing the terms and nature of all research and developmental contracts negotiated.

(5) Contracts for materials—including aircraft, parts, instruments, and accessories, the nature of which, for national security reasons, should not be publicized.

(6) Contracts for standardized technical equipment, which, in order to assure interchangeability of parts with already-procured equipment, must be purchased from the same producers.

(7) Contracts for supplies of a technical or specialized nature—such as aircraft, requiring a large initial investment and an extended period of preparation for manufacture, on which an award to a new producer would involve a duplication of preparatory effort.

(8) If and when an agency head determines that competitive contract bids have not been independently arrived at and that a preferable arrangement could be made through negotiation. Senate Armed Services Committee estimated that this stipulation would break collusive bidding, follow-the-leader pricing, rotated low bids, identical bids requiring drawing of lots, uniform estimating systems, and refusal to classify

the Government as other than a retail buyer.

(9) If it is determined to be in the national defense interest that any plant be kept in production.

Legislation also authorizes free delegation of procurement authority to promote joint procurement by armed services. It requires that all competitive bids evidencing collusive action on the part of bidders be turned over to the Attorney General for appropriate action under anti-trust law, and writes out standards and procedures for competitive bid procurement.

Brewster Seeks CAA-CAB Changes

Legislation revising the CAA-CAB organization for regulation, enforcement, and investigation of air safety matters was introduced last week by Sen. Owen Brewster (R., Me.), Chairman of the Senate Interstate Commerce Committee's aviation subcommittee.

Under the measure there would be a clear demarcation of jurisdiction between the two agencies in the air safety field. CAA's duties would be to lay down, promulgate and administer safety regulations. CAB would have the adjudicative function of suspending and revoking certificates after notice and hearing and would have a free-hand to make comment or recommendation on the CAA's administration of air safety. "CAB, in fact, would become an independent air safety board," Brewster said.

Brewster anticipated that his proposal would draw general support from the airlines, pilots and aviation industry but "doubted" that the President's Special Air Safety Board, headed by CAB chairman James Landis, would endorse it.

Aviation Exports Reach New Peaks

Exports of both aircraft and engines continued to rise in May to new highs for the year, aircraft shipped out of the country during the month numbering 327, valued at \$9,415,821, and engines, 849, valued at \$2,499,148.

Number of personal planes exported during the month was 190, nearly 12 percent of total shipments—domestic and export—during the month. Value of personal planes exported was \$824,021, more than 14 percent of the value of total shipments during the month. Industry view for some time is that lightplane manufacturers should export annually at least 15 percent of their production.

Used and surplus aircraft exported in May totaled 61, down slightly from April exports in this category. However, used and surplus engines continued to constitute the bulk of engine exports, totaling 711 in May against 242 in April. Largest number of new engines shipped, 89, was in the 1,000-2,499 hp. class. There were only eight large transport planes exported during the month.

AVIATION CALENDAR

July 31-Aug. 1—AIA Eastern Regional Traffic Committee, Hotel Schroeder, Milwaukee.

Aug. 1-2—Parks College reunion, 20th anniversary, East St. Louis, Ill.

Aug. 7-8—Annual summer meeting, Institute of the Aeronautical Sciences, Los Angeles.

Aug. 7-8—1947 convention, National Flying Farmers Association, Oklahoma A & M College, Stillwater, Okla.

Aug. 11—International Air Transport Association, tariffs and schedules subcommittee, Paris.

Aug. 13—CAA-sponsored State Aviation Forum, Nashville, Tenn.

Aug. 16—ICAO communications working committee, Mexico.

Aug. 16-17—Oakland Air Show, 20th anniversary of Dole flight, sponsored by Junior Chamber of Commerce, Oakland, Cal.

Aug. 19—International Air Transport Association, financial committees, Paris.

Aug. 21-22—West Coast transportation and maintenance meeting, Society of Automotive Engineers, Biltmore Hotel, Los Angeles.

Aug. 25—International Air Transport Association, financial-accountancy and statistical subcommittee, Paris.

Aug. 28—International Air Transport Association, financial-clearing house subcommittee, Paris.

Sept. 1-10—International Air Transport Association technical conference, Nice.

Sept. 3—International Air Transport Association, financial committee, Brussels.

Sept. 6—Anglo-American conference, Institute of the Aeronautical Sciences and Royal Aeronautical Society, London.

Sept. 8-12—Second annual conference and exhibit, Instrument Society of America, Hotel Stevens, Chicago.

Sept. 15-17—Air Force Association, first annual convention, Columbus, Ohio.

Sept. 16—ICAO rules of the air and air traffic control meeting, Montreal.

Sept. 16—International Air Transport Association, technical committee, Nice.

Sept. 16-18—Second Regional CAA conference, Atlanta.

Sept. 17—ICAO meteorological division, Montreal.

Sept. 23—ICAO aerodromes, air routes and ground aids division, Montreal.

Oct. 2-4—Autumn aeronautics meeting, Society of Automotive Engineers, Biltmore Hotel, Los Angeles.

Oct. 3-4—Arizona State Aviation Conference, Douglas, Ariz.

Oct. 6—International Air Transport Association, executive committee, Rio De Janeiro.

Oct. 7—International Air Transport Association, traffic committee, Rio De Janeiro.

Oct. 14—International Air Transport Association, third annual general meeting, Petropolis.

Oct. 15-18—Montreal Board of Trade, second annual air conference, Montreal.

Oct. 20—International Air Transport Association, executive committee, Petropolis.

Oct. 20—Air Industries and Transport Association of Canada, annual meeting, Gray Rocks Inn, St. Jovite, Quebec.

Oct. 20—ICAO meeting on multilateral agreement on commercial rights, Petropolis.

Oct. 24-26—"Air Day in Texas" aviation show, Harlingen, Texas.

Oct. 26-28—National Association of State Aviation Officials, Fort Worth, Texas.

Nov. 4-7—National Airport Show and Institute, sponsored by Air Foundation and National Aeronautic Association, Municipal Auditorium, Cleveland.

Nov. 6-7—Fuels and lubricants meeting, Society of Automotive Engineers, Hotel Mayo, Tulsa, Okla.

Nov. 18—ICAO search and rescue division, Montreal.

Nov. 19-22—Fifth Annual National Aviation Clinic, Springfield, Ill.

Dec. 1-3—Air transport meeting, Society of Automotive Engineers, Hotel Continental, Kansas City.

GCA Gift to CAA

Outright gift of three Ground Control Approach units by the Army Air Forces saved the Civil Aeronautics Administration's experimental GCA program from curtailment threatened by Congressional cuts in air safety appropriations.

In addition to the three complete GCA units now operated by CAA at Washington, New York and Chicago, AAF offered a complete set of spare parts for each installation. CAA previously had indicated it would be forced by lack of funds to close at least one of the three installations.

As a result of AAF action CAA now promises to put all three GCA units on a 24 hour basis by Aug. 1. There have been bitter complaints by airlines and GCA manufacturers that the sets operated by CAA's Region One were not available full time for practice and training operations.

CAA said lack of funds forced refusal of an AAF offer to loan 20 military GCA sets for commercial operation but that some sets might be made available for training CAA personnel at its Oklahoma City base.

Meanwhile the Air Transport Association moved ahead with plans to install GCA at Shannon, Eire, to make the North Atlantic route completely equipped with GCA facilities. The Shannon set will be loaned by AAF and operated by personnel of American Overseas Airlines with expenses shared by all airlines using the field. A similar arrangement at Gander, Newfoundland, has been approved for another year's operations after CAA lowered minimum weather requirements by 100 ft. of ceiling and a quarter mile visibility.

CAA Offers Eight More Airports Grants

CAA has made offers of grants-in-aid under the Federal Airport Act to eight more sponsors, bringing the total to 18.

Meanwhile, the Miami, Fla., Port Authority has rejected offer of CAA financial aid for Tamiami Airport, claiming that there were so many qualifications attached to the federal offer of \$32,000 as to make it ineffective.

This is the first reported instance of its kind, although for months many persons in touch with local affairs throughout the country have insisted that attitude is prevalent.

New projects for which CAA has offered grants-in-aid (sponsors' shares are as shown in CAA announcement in January, and may since have been changed):

• **Mt. Vernon, Ill.**—Federal, \$71,700, sponsor, \$71,300; acquire land, improve class I field to class II.

• **Danville, Ill.**—Federal, \$258,340, sponsor, \$260,000; construct class III field.

• **Marion, Ill.**—Federal, \$199,400, sponsor, \$165,000; grading, drainage, lighting, etc. class III.

• **Salem, Ill.**—Federal, \$51,000, sponsor, \$23,000; grading, drainage, lighting, etc. class II.

• **Alton, Ill.**—Federal, \$256,300, sponsor, \$253,375; grading, drainage, paving, improve class I to class III.

• **Toledo, Ohio**—Federal, \$254,520, sponsor \$197,750; grading, drainage, paving, lighting, etc. class III.

• **Houghton, Mich.**—Federal, \$341,000, sponsor, \$336,080; acquire land, construct class III field.

• **Midland, Mich.**—Federal, \$60,000, sponsor, \$60,916; acquire land, construct class II.

The original grant to Plainview, Tex., of \$75,000 to improve a class II field (AVIATION WEEK, July 7) has been raised to \$80,000.

AAF Plans Test With 42,000 Lb. Bomb

A 42,000 lb. bomb, largest ever built, is scheduled for tests within the next few months on a range within the United States. The bomb, which weighs more than a fully-loaded Martin 202 transport, is not a penetration or armor piercing type, but has been designed by the AAF for general demolition purposes.

Tests will be made with dummy bombs loaded to the 21-ton design weight but containing no explosives. They will be used to prepare ballistics tables for the Norden bombsight in preparation for future live tests. The Consolidated Vultee B-36A is the only airplane now capable of carrying the new monster bomb on a tactical mission.

AAF has already launched a program of penetration bomb tests with new versions of the 25,000 lb. Amazon and Samson bombs, largest in existence today. Thirty of these giant bombs will be dropped by Boeing B-29's of the AAF Strategic Air Command, stationed at the Giebelstadt Germany, on a German submarine assembly factory near Bremen. Three B-29's with specially trained crews will carry out the tests.

Known as "Project Harken," the experiments are a continuation of "Operation Ruby" carried out in 1945 and 1946 by AAF B-29's and Boeing B-17's against Heligoland and Farge. Heligoland was destroyed recently by underground explosives. Bremen was chosen for the new tests because of the 24-ft. thick reinforced concrete walls and ceilings of the U-Boat factory. After each drop, AAF and RAF technicians will assess the damage and effectiveness of the huge bombs. Upon completion of the tests, the group will prepare a final report

Graddick Leaves United for Slick

Charles P. Graddick, assistant to United Air Lines' vice president in charge of administration, has resigned to become assistant to the President of Slick Airways, San Antonio, Texas. Earl Slick, president of the uncertificated cargoline, said the appointment was part of a plan to strengthen his staff preparatory to the company's expected transition from contract to common carrier status Aug. 1. M. L. Anderson, formerly Braniff Airways' general traffic manager, was named sales manager of Slick soon after the Graddick appointment.



Graddick

Martin Union Battle

Glenn L. Martin Co. has been made a target by the International Assn. of Machinists in its drive to increase its membership from 630,000 to 1,000,000 by next May, when the union will be 60 years old.

The I. A. M. obtained from the National Labor Relations Board a bargaining election before Aug. 21 among the almost 7,000 production maintenance, garage and cafeteria employees who have been represented by the C.I.O.'s United Automobile Workers since 1943.

Martin has signed yearly contracts with the U.A.W.-C.I.O., the last one on March 11, 1946. A previous attempt to wrest the Martin agreement from the C.I.O. union was lost by the I.A.M., an independent union, in 1944. Another independent union, American Aircraft Workers, Inc., was denied a place on the election ballot because its request was filed too late and because it did not show it represented a sufficient number of employees to warrant consideration with the other two unions.

The U.A.W.-C.I.O. and the I.A.M. long have been rivals for the right to represent workers in aircraft production. The I.A.M. claims three times as many as the C.I.O.

The company was in negotiation with the U.A.W. before and after expiration of the contract in March, but discussions finally were suspended. At one time, the union voted approval of a strike vote, but the vote was never taken. Martin now cannot undertake new negotiations until after N.L.R.B. certifies a union or the employees vote against both unions.

analyzing the value of the new bombs against heavily reinforced targets.

Ten practice models of the 12½-ton bombs were previously dropped at Muroc Army Air Base, Cal. as crew training. In addition, each crew will be allowed to drop one dummy cast iron bomb on Bremen prior to releasing the live bomb.

Navy, Coast Guard Pressing For 'Copter Night Operations

Experiments with new instruments may increase utility of rotary wing aircraft; No CAB regulations.

A 50 percent increase in helicopter utility and its transition to an all-weather operations is promised by new developments pointing towards its operation at night or under conditions of restricted visibility, from which it is currently barred. The night flying helicopter has been the subject of recent CAA-Industry discussions and both the Navy and Coast Guard are pressing experimental programs designed to provide early solutions to instrumentation and lighting problems, which comprise the present major hurdles.

Neither the Bell 47 nor the Sikorsky S-51 are licensed, at present, for night or restricted visibility operation. Los Angeles Airways certificate for helicopter mail delivery is for daytime operation insofar as the Post Office Department desires only to handle airmail during the day it is mailed or received. The Chicago and Boston area certificates will probably be on this same basis.

► **No Regulations**—CAB has established no regulations concerning helicopter position lights or instrumentation but stands ready to examine any proposal or flight test article submitted by a helicopter manufacturer, on the basis of which a uniform policy may be established.

The Army, Navy and Coast Guard have frequently flown helicopters at night but normally only under contact conditions provided by a visual point of reference. The present stability difficulties of the helicopter render instrument readings unreliable due to lag in the indications following a displacement of the aircraft. Although steady flight reduces the importance of lag, transition and hovering flight magnify lag into a serious problem. Present instruments indicate only the attitude of the fuselage with respect to fixed reference planes.

► **Instrument Experiments**—The Coast Guard has been experimenting with a special instrument consisting, essentially, of a gyro horizon mounted horizontally in such a manner as to indicate the attitude of the aircraft in the horizontal plane. This provides an indication of whether the helicopter is moving fore or aft, or the tail is swinging to the left or right. In combination with a conventionally mounted gyro horizon, which indicates movement of the nose up or down and fuselage rotation to left or right, a comparatively complete indication of the attitude of the aircraft is available. However, this system is also susceptible to lag and provides an indication of fuselage attitude only. The major instrument required is an indicator of the rotor plane

attitude, which more directly determines the direction of movement of the aircraft than does the fuselage.

The Navy is developing a number of systems for a helicopter automatic pilot system, most promising of which consists of an electronically controlled intelligence unit and hydraulically operated control units. However, the problem of helicopter stability renders this program complex and a satisfactory solution to the autopilot problem is not optimistically expected until helicopter stability problems are more thoroughly understood.

► **Lighting Problem**—The problem of helicopter lighting is under investigation by the Navy and a number of systems was demonstrated recently at N.A.S. Patuxent. Basis of the Navy approach is a lighting system which accurately identifies the craft as a helicopter while in night flight. This has resulted in fixed rotor tip lights which generate a lighted circle, or "halo", and which is, obviously, unmistakable. Major difficulty experienced to date with this system is bulb filament failures due to the high centrifugal forces on the rotor tips. A series of steady and intermittent, white and colored fuselage lighting combinations have been investigated and both visual and psychological studies are being made of these combinations.

CAA does not see the necessity for the identification of the craft in night flight as a helicopter at present and is willing to accept a conventional lighting system upon demonstration of its effectiveness. Landing lights will probably be an integral part of this lighting system.

► **Patent System**—The problem of "left-red, right-green" colored lights on the rotating blades of the helicopter presents obvious difficulties. One solution has been advanced by Everett R. Steward, Glendale, Calif. inventor, who has just received a patent on a system which permits the rotor tip light to show green on the advancing (right) arc and red on the retreating (left) arc of rotation. A collector ring on the rotor shaft is energized from the fuselage power supply through a brush assembly. Above the collector ring is a segmented collector, which completes a contact as each segment passes a brush assembly, thereby lighting the required bulb at the proper position on the arc of blade rotation.

The principal feature of the helicopter—safety—would be substantially sacrificed if fixed wing visibility minimums were to remain as basic helicopter requirements. The integration of the helicopter with the

Movie 'Copter

A new field of helicopter utility—motion pictures—is predicted by Lawrence D. Bell, President of Bell Aircraft Corp., following a studio preview of an experimental film. The film was made from a Bell helicopter, owned by the Armstrong-Flint Helicopter Co., used as a camera platform.

"From what I have seen, I predict that the helicopter within a matter of months will become a standard piece of studio equipment," Bell told AVIATION WEEK. "It offers angle shots that producers never dreamed might be possible. Also it gives a studio the opportunity of photographing outdoor location scenes that today might cost up to \$50,000 in special ground handling equipment for the cameras."

Studio technicians, however, point out that problems of vibration, noise and wind will have to be licked before widespread use of the helicopter as a camera platform is practical for motion picture work.

airways and all-weather landing aids is essential but cannot be manifest until stability, instrument and lighting problems are solved. Urgency of the problem is pointed up by the revelation that the Navy has a number of tactical missions on tap requiring the operation of helicopters at night and in restricted visibility conditions.

Baumann Brigadier Makes 20 Test Flights

The Baumann Brigadier, twin-engine, 5-place transport, has completed 20 test flights in its first three weeks of operation over Southern California and J. B. Baumann, designer, has expressed complete satisfaction with its stability and performance. The all-metal monoplane has been flown at indicated speeds ranging from 40 to 170 mph. under perfect control. The stall is reported to be gentle and without wing-dropping tendencies.

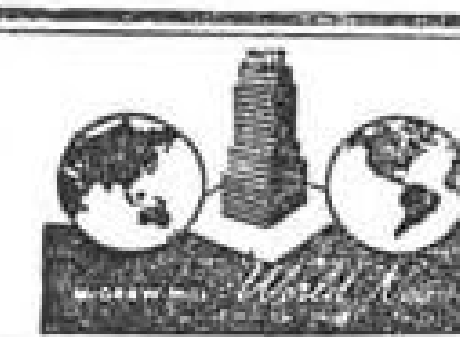
Landing speed without flaps with a load only 100 lb. under the design gross weight of 3,250 lb. is 50-55 mph. and the Brigadier can climb at 47.5 mph. with this load. In brief spin tests, recovery after 2½ turns of the spin, has been accomplished in ¾ turn.

Although oil cooling difficulties reported earlier (AVIATION WEEK, July 14) have been partly alleviated by additional louvers, Baumann is designing a set of oil coolers weighing 7½ lb. each for installation on the two Continental engines. He had originally hoped that crankcase cooling alone would prove adequate.

A second airplane is under construction for static load tests and Baumann expects to be ready to begin CAA certification tests within nine months.



AVIATION WORLD NEWS



Major Australian Plants Are Busy

MELBOURNE—Though the humming activity of the war years has ceased, all four major Australian aircraft plants are booked with orders to keep a skeleton staff busy on construction and development for many months to come.

Gradual displacement of wartime models by postwar designs, including jet propelled craft, calls for retooling at several plants.

► **Commonwealth Aircraft Corp.**, Melbourne: established in 1936, CAC is allied with the Broken Hill proprietary steel interests. Technical know-how was originally furnished by North American Aviation Inc., but progressively Australian designs and tooling plans were adopted. Engines, however, still are imported from the U. S. About 1,300 planes were flown from the CAC assembly plants over the war years.

CAC now is busy on 100 Mustang fighters (more than were produced during the war) and is seriously planning to crash into the power plant field with negotiations with Rolls-Royce for production of new jet engines reported approaching the final stage. ► **Beaufort Dept. of Aircraft Construction**, Melbourne: A more recent World War II creation mainly dependent on English techniques, tooling and components, it has produced 700 Beaufort bombers, 364 Beaufighters and 10 Avro Lincoln bombers. Since VJ day it has delivered twelve Lincolns and is gradually clearing up an order for another seventy at the rate of one-and-a-half a month.

It is claimed that 350 modifications have gone into the design of the Lincoln during the past twelve months. One of these is an Australian-invented hydraulic damper which eliminates rear wheel shimmy.

Tudor II transports are still on the drawing boards, and actual production must await arrival of machine tools from England and the U. S.

► **Lidcombe Government Arsenal**, New South Wales: Part of the Lidcombe arsenal in the Sydney area, the factory's postwar plans include production of Rolls-Royce Mark 102 Merlins, to replace Mark 85 Merlins in later Lincolns.

► **De Havilland Aircraft Co.**, Sydney: De Havilland's Australian organization for parts manufacture, service and repairs was turned into a sizeable production unit during the war which turned out 1,070 Tiger Moths and 300 planes of other types, mostly powered with engines supplied by General Motors' Australian subsidiary. De Havilland's main postwar project is the production of 50 Vampire fighters for the RAAF.



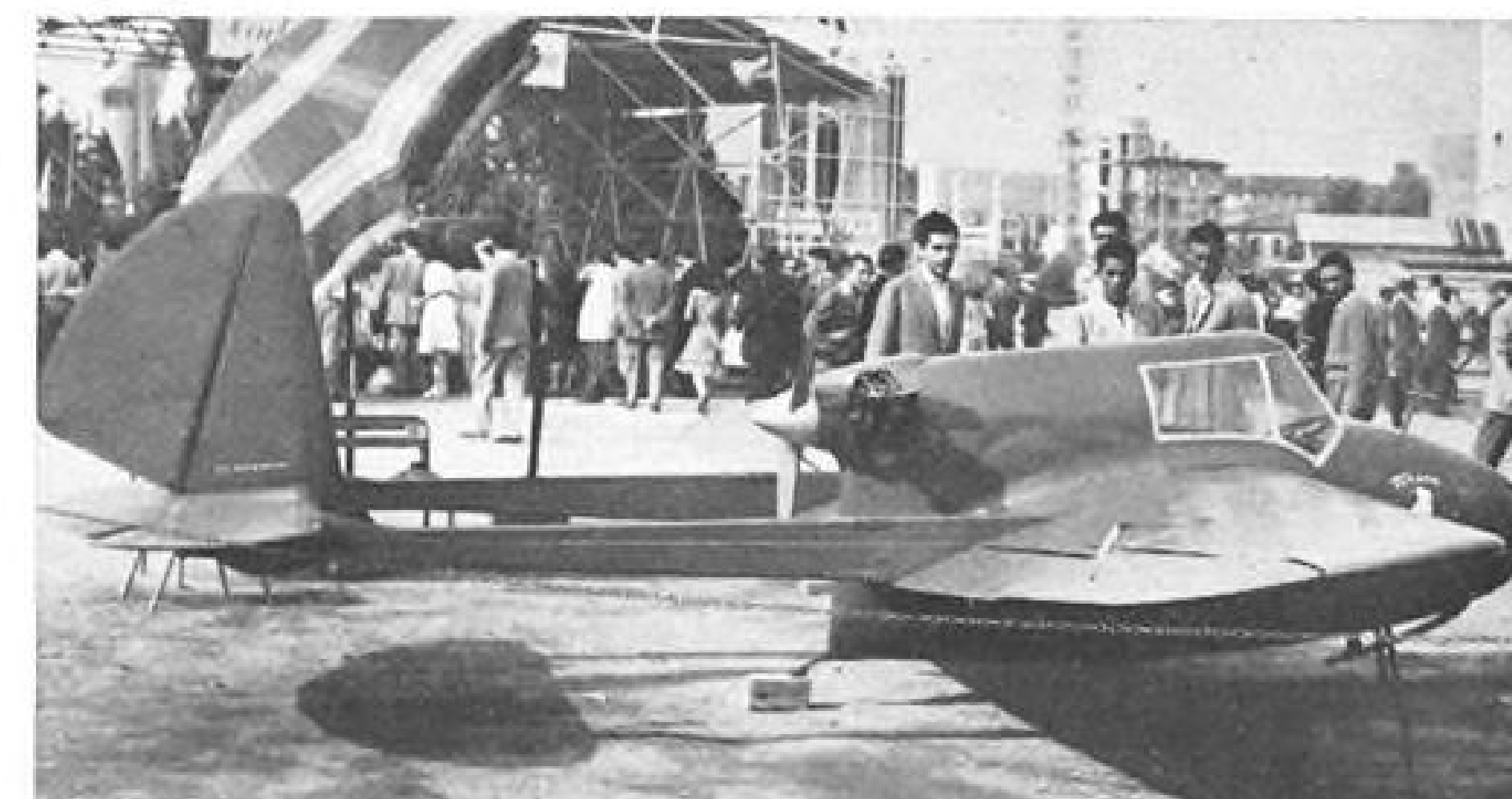
SWISS SEABEE

First Republic Seabee amphibian to arrive in Switzerland is shown beached at Lake Thonne, following its assembly from parts shipped from American factory. Plane will be used by Mido Watch factory at Bienne, for business travel. Export market for amphibians is regarded as good in Switzerland because of large number of lakes.



NEW BRITISH GLIDER

First low wing tandem sailplane to be built in England is Short Nimbus. A dual-control training craft, it has monowheel landing gear and, according to manufacturers, incorporates "several other refinements not usually found on sailplanes." (Flight photo)



NEW ITALIAN PUSHER

Shown at recent Milan fair was this small single-place pusher built by Alaparma, Note monowheel landing gear with outriggers near wingtips and nose and tail skids. Reported to have a cruising speed of close to 100 mph. craft is expected to sell for equivalent of about \$4,000. (Wide World photo)

FINANCIAL

Manufacturing Status Improving In Face of Deficit Reports

Long range position seen bettered by move to establish air policy as Congress ups procurement appropriations.

While aircraft manufacturers' reports continue to reflect deficit operations, there is increasing evidence of definite improvement in the industry's fundamental position and long range outlook.

A constructive government attitude appears in the making with anticipated approval of the Brewster bill to establish a national air policy board. Congress has shown a definite change of heart toward both Army and Navy, as is manifest by material increases in aircraft appropriations voted by the Senate.

This apparent reversal in the trend of official attitude toward the aircraft builders is vital to the industry's ultimate survival, for the industry is almost completely dependent on military orders since it can hardly exist on commercial business.

► **Billion Dollar Backlog**—A survey shows that the aircraft manufacturers now can anticipate an aggregate military backlog of around \$1 billion to sustain operations up to June 30, 1948. A little less than one-fourth will be expended on research projects. This volume should be available regardless of the trend of general business conditions.

What happens to a company heavily engaged in production of commercial transports is revealed by the recent report of Douglas Aircraft Co. For the six mo. ended May 31, the company showed a net operating loss of \$6,712,307. After applying a tax carryback credit of \$5,960,000 the loss was reduced to \$752,307. This is in contrast to the net income of \$2,610,261 cleared in the corresponding six mo. of last year. An accelerated production rate of 2½ DC-6's was reached in the second quarter. All told, 48 DC-6's were delivered up to July 1. The initial group of deliveries of this new transport type has had to absorb a particularly high portion of the engineering and development expense. Such write-offs taper down with each succeeding delivery of aircraft.

Evidently it is Douglas policy to amortize all such development expense as rapidly as possible. This arrangement results in an accounting loss on current plane deliveries to be replaced by profits at the end of the year. Nevertheless, the company anticipates that the cumulative losses for the first six mo. will be somewhat increased during the last half of the year.

This is a very conservative accounting policy and in contrast to that followed by

other builders who amortize development and engineering expense uniformly over a given production program.

► **Bank Loans**—To assist in meeting large cash requirements, Douglas borrowed \$10 million under its bank credit arrangement. At the end of May, net working capital amounted to \$58,151,182, the bulk of which—\$42,826,454—was accounted for by inventories and work-in-process. A year earlier, inventory position totaled \$18,525,375 and two years previous but \$8,074,853.

The huge inventory position necessitated by commercial production is highlighted by the comparative sales in recent years. For the six mo. ended May 31, 1945, total sales of \$439,845,000 were achieved—mostly military. Two years later, sales of about one-tenth that amount required an inventory position four times as large.

As Douglas increases its deliveries of the DC-6, its inventory position will be reduced and its cash balances restored, thus pointing to an early retirement of the bank credit.

Unfilled orders for Douglas at May 31, 1947 amounted to \$165,039,000 compared with \$200,538,000 at the end of the first quarter. About half of the current backlog is represented by military orders, including research projects.

The Douglas experience has confirmed the view of many industrial observers that without the government footing the bills, most aircraft companies are incapable of operating profitably on commercial business alone.

► **Policy Needed**—However, the implications are far more significant in that the industry suffers from want of a long range planning program. It is for this reason that much encouragement is being engendered by the probable creation of a national air policy board.

The Brewster bill would create a board which would investigate and make recommendations for the maintenance of an adequate aeronautical manufacturing industry. Among other things, it would be expected that government purchasing policy would be immeasurably clarified, and stability introduced. Such a policy could very easily permit the aircraft builders to operate at a reasonable profit level.

► **See Greater Stability**—One of the hoped-for objectives would be uniform production levels. The irregular spacing of contracts

has had very detrimental effects on the industry. In order to obtain any military orders, the aircraft builder has had to maintain an expensive engineering department, whether or not it was fully occupied.

Of greater cost significance is the problem of financing new aircraft designs. The development of new aircraft models entails the expenditure of substantial sums, with major projects easily running as high as \$30 million. Such development expense can hardly be borne by the industry in building for the risky commercial market.

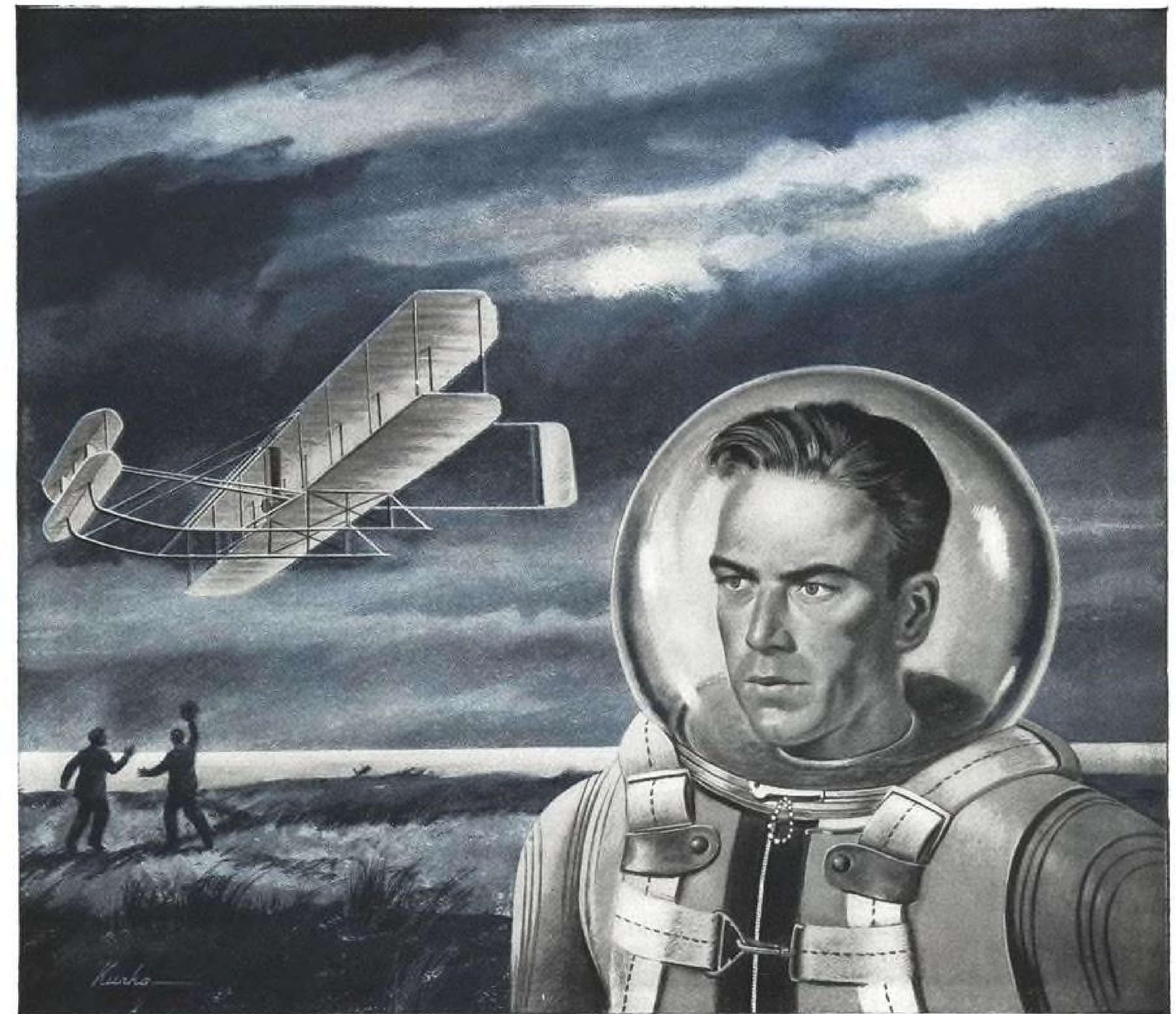
Development contracts are again being let on a cost-plus-fixed-fee basis. Though there is no uniform profit experience it is believed that earnings on such projects average about 3% on sales. Regular production contracts are generally on a fixed price basis and carry a higher profit margin.

The scramble for commercial business has been very costly for the aircraft builders. Lockheed, Douglas, Boeing, Convair and Martin have all had a very difficult time in developing new commercial transports and attempting to show a profit on their production. It is true, however, that the bulk of such development expense may have been absorbed by earnings realized during the war period. Nevertheless, no builder has as yet showed a profit on his commercial model.

Further, while Douglas and Lockheed may have passed through that initial painful period of introducing a new transport, the other builders have yet to go through the trials of receiving an approved type certificate from the CAA and to eliminate all the engineering "bugs" that are inevitable in a new plane. All this promises to be costly and time-consuming with an attendant heavy commitment in inventories. Moreover, in the light of current airline traffic trends, it appears that the market for new transports may have been greatly over-estimated and may require a longer period in which new transports can be sold.

► **Need For Military Orders**—The industry's background and very nature of operations today place it squarely on the mercies of military procurement. Assuming the creation of a special air policy board, it will nevertheless take considerable time for the agency to formulate its recommendations. It is reasonable to expect, however, that this board would advance constructive suggestions and would work a vast improvement over present practices being followed.

In the process, a sufficient volume of business to assure stable operations could be anticipated. By no stretch of the imagination would war level volume orders be necessary to assure profitable results. For the most part, the aircraft industry has no fixed charges to support and most properties and facilities are largely amortized, thus keeping current depreciation charges to a negligible amount. Once the volume of business is ascertained sufficiently in advance, production and operational schedules can be so adjusted to reduce many uneconomic practices to a minimum with the resultant decrease in overhead charges.



Keeping a great Aviation Tradition Aloft

From three great pioneers of heavier-than-air flying, Glenn H. Curtiss and the Wright Brothers — Curtiss-Wright derives both its name and its tradition of long-range planning and research.

Long-range planning and research preceded the world's first *successful* motorized flight by the Wright Brothers on December 17, 1903 in a Wright plane powered by a Wright engine . . . preceded, too, the first *official* flight ever recorded in the United States . . . made in 1908 in a plane designed, powered and piloted by Glenn Curtiss.

In the same pioneering spirit of these great founders of modern aviation . . . but with far greater research and experimental facilities at their command . . . Curtiss-Wright engineers evolved airplanes, engines and propellers that saw action in every combat theater in the world during the war . . . and today fly on many leading commercial airlines.

Today, continuing research and development at Curtiss-Wright are evolving planes, engines and propellers that will keep the names *Curtiss* and *Wright* FIRST IN FLIGHT as they have for 44 years.

CURTISS-WRIGHT CORPORATION

FIRST IN FLIGHT

30 ROCKEFELLER PLAZA NEW YORK 20, NEW YORK

Divisions of Curtiss-Wright Corporation: AIRPLANE DIVISION • WRIGHT AERONAUTICAL CORPORATION • PROPELLER DIVISION
L. G. S. SPRING CLUTCH CORPORATION • MARQUETTE METAL PRODUCTS COMPANY • VICTOR ANIMATOGRAPH CORPORATION



Wilco Contact Assemblies

SILVER, PLATINUM, TUNGSTEN SPECIAL ALLOYS, POWDER METALS

ASSEMBLED TO THERMOSTATIC BIMETAL, STEEL, BERYLLIUM COPPER AND OTHER NON-FERROUS METAL SPRINGS, BLADES, BRACKETS, ARMS AND SCREWS. (BRAZED, RIVETED, WELDED, SPUN)

Many manufacturers find it advantageous to turn over their contact assembly problems to Wilco. From Wilco's accumulated experience, they obtain contact assemblies precisely conforming in size, shape and material to their individual requirements.

Wilco Contact Assemblies are fabricated by an organization of thoroughly skilled engineers and craftsmen, with a 33-year record of adapting electrical contacts and thermostatic bimetals to thousands of industrial and military applications. They embody—like all Wilco materials—the basic excellence for which Wilco has been famous since 1914.

Contact materials of maximum ductility, hardness, density, freedom from sticking, low metal transfer, high conductivity and arc-resistance . . . Thermostatic Bimetals meeting the most exacting standards for temperature indication, temperature control and temperature compensation . . . these are the advantages of Wilco contact assemblies.

Whether your requirements are for individual Wilco materials or for assemblies supplied by us complete . . . Wilco engineers will gladly help you meet them successfully.

THE H. A. WILSON COMPANY
105 Chestnut St., Newark 5, New Jersey • Branch Offices: Chicago, Detroit, Los Angeles, Providence

WILCO PRODUCTS INCLUDE:
CONTACTS
Silver - Platinum - Tungsten - Alloys - Sintered Powder Metal
THERMOSTATIC BIMETAL
All temperature ranges, deflection rates and electrical resistivities
SILVER CLAD STEEL
JACKETED WIRE
Silver on Steel, Copper, Invar or other combinations requested
ROLLED GOLD PLATE AND WIRE
NI-SPAN C*
New Constant Modulus Alloy
SPECIAL MATERIALS
*Reg. Trade Mark
The International Nickel Co., Inc.

SPECIALISTS FOR 33 YEARS IN THE MANUFACTURE OF THERMOMETALS ELECTRICAL CONTACTS • PRECIOUS METAL BIMETALLIC PRODUCTS

ENGINEERING & PRODUCTION

TEMCO Seen as Major Factor In Personal Plane Field

Takes over bankrupt Globe's Swift after producing 300 under contract.

With other business already paying its overhead costs, and with engineering and tooling expenses already written off, the newest lightplane producer, Texas Engineering & Manufacturing Co., has the potentials, at least, of becoming a major factor in the personal aircraft industry.

The Dallas concern already has emerged full-grown in the lightplane industry. Its acquisition of the Swift from bankrupt Globe Aircraft Corp. brought it a product already on the market, and the company has the tooling and experience to produce it. It has a \$6,000,000 annual volume outside anything the Swift may bring; 1,000,000 sq. ft. in a modern plant, and 2,000 employees.

► **TEMCO Hopes**—TEMCO's strength, and possibly chief hope of becoming a strong competitor in the lightplane field, lies in the business it had before it took over the Swift. It was formed about 18 months ago, shortly after VJ day, out of the cancellation of war contracts. Its president, Robert McCulloch, vice-president H. L. "Bert" Howard, and about 90 percent of the other employees worked for North American Aviation, Inc. in the same plant that the company now occupies. McCulloch was general manager and Howard comptroller, of NAA's Dallas division.

TEMCO began as a producer of commercial sheet metal products under contract, and this is still an important enterprise. It built several hundred Fairchild F-24s under contract, and entered the overhaul and conversion business, which is a sizeable part of its operation. Of the more than 1,000 Swifts shipped by Globe, TEMCO built more than 300, again under contract. Its first step as the prime producer of the lightplane was to cut the price more than \$1,000, to \$3,750 for the deluxe and \$3,250 for the standard version.

► **Swift Bargain**—Having picked up the Swift off the bargain counter—with no heavy development expenses to be charged off against the airplane's selling price, TEMCO has a greater latitude in pricing than is generally true in the lightplane field.

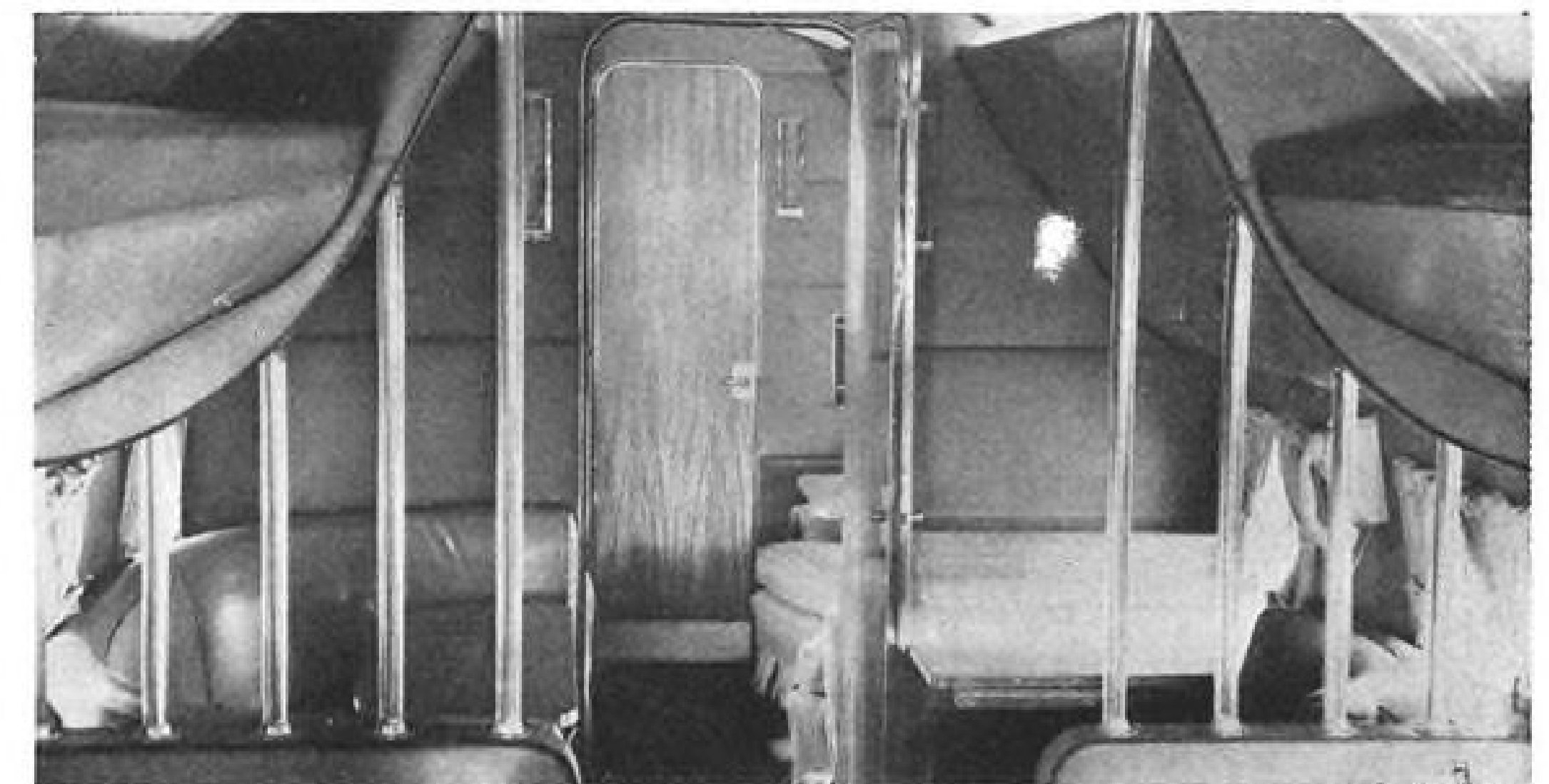
The company has converted more than 50 C-47s for airlines, and is a Douglas-licensed maintenance and overhaul center for C-54s. It has conversion work for TWA, Western Air Lines, Philippine Airlines and

TEMCO is overhauling more than 100 planes, including B-25 bombers, C-47 transports, OA-10s and BT-13s. It is also doing conversions for private operators.

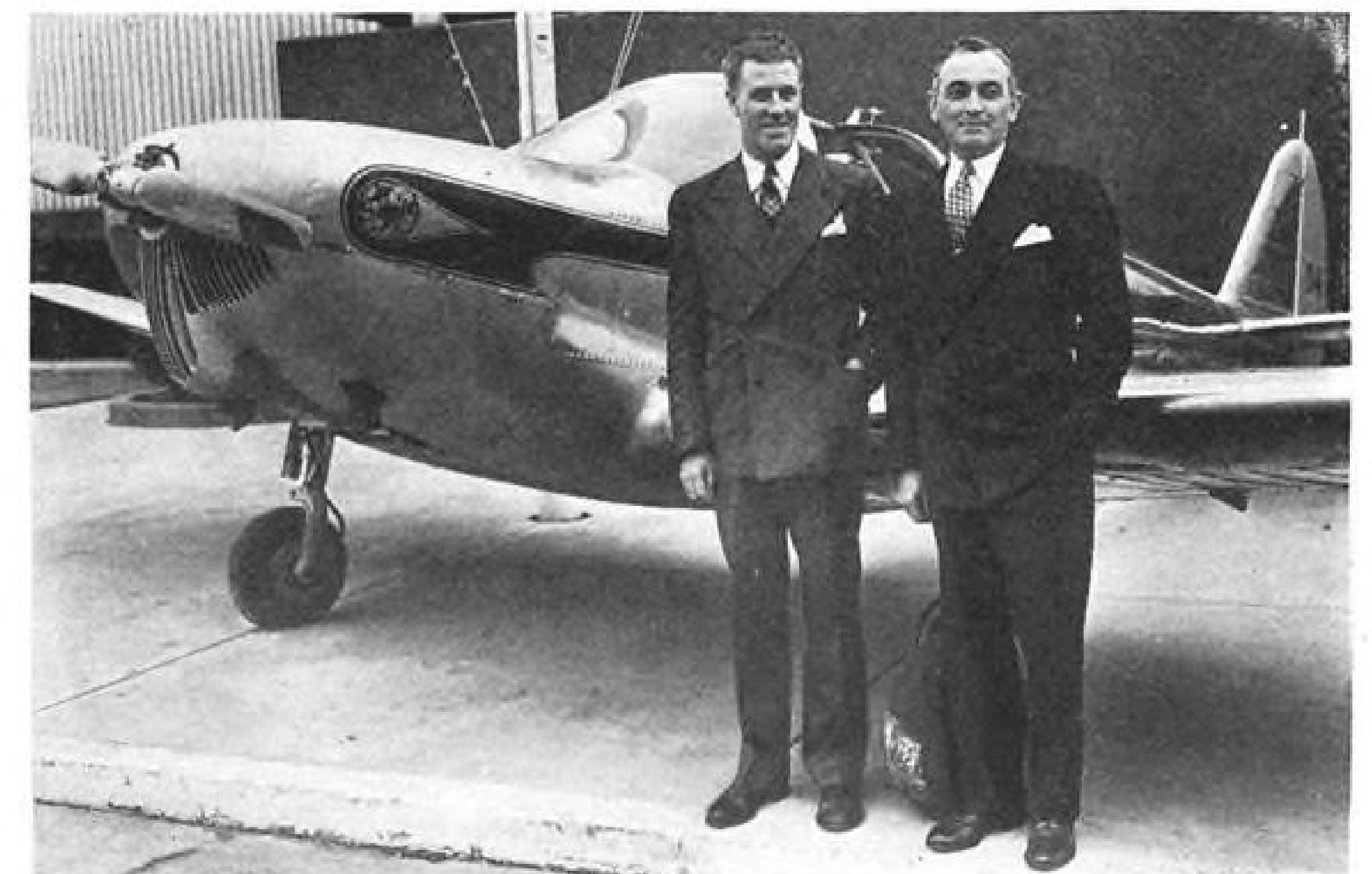
It should have little worry over its production organization, built around former NAA personnel. These include Alvin Graff, general superintendent; C. A. Berthiame and O. A. Witbeck, superintendents; L. R. Childs, chief engineer; R. F. Yonash, chief project engineer; J. A. Maxwell, Jr., administrative assistant to the president; J. H. Baylis, director of personnel; C. D. Collier, purchasing agent; and J. C. McKelvin, chief inspector.

Avianca of Colombia. It is a major part of the American Republics program, under which the U. S. is rehabilitating the air forces of Latin American countries.

► **Overhaul Contracts**—For the ARP,



TEMCO'S BREAD AND BUTTER—Texas Engineering & Manufacturing Co.'s position in the lightplane field is strengthened by having an established conversion business which meets most of its overhead. Example of its work is shown in this photo of the club compartment of a C-47 converted as a personal transport for the president of a South American country.



NEW LIGHTPLANE MANUFACTURERS—Robert McCulloch, left, and H. L. "Bert" Howard, president and vice-president, respectively, of Texas Engineering & Manufacturing Co. which enters the lightplane field with the acquisition of the Swift from bankrupt Globe Aircraft Corp.

UNITED STATES RUBBER COMPANY

SERVING THROUGH SCIENCE



*protected
by glass*

A fibrous glass wrap protects the conductors of Neolay Aircraft Wire—making them resistant to heat and flame.

This is one of the reasons why this new aircraft wire has proved so successful under the most rigorous conditions of aircraft operation. But Neolay is also resistant to mildew and to the effects of oil, gasoline, glycol, fresh and salt water.

Because Neolay is smaller in diameter and lighter in weight than ordinary aircraft wire, it is easier to handle and install. It is available with either copper or aluminum conductors. Next to the conductor is an insulation of highest electrical and physical properties. Over all, but inseparable from the insulation, is a smooth nylon cover, which facilitates handling and permits quick identification.

For complete details, write to United States Rubber Company, Wire and Cable Department, 1230 Avenue of the Americas, New York 20, N. Y.

Neolay

**ELECTRICAL
AIRCRAFT WIRE**



Northrop Preparing Pioneer for Tests

Northrop Aircraft, Inc., now making structural modifications of the prototype of its Pioneer, three-engine transport, will have the plane ready for sales demonstration tests within the next few weeks.

Principle modifications will be reconstruction of the tail surfaces from present "beaded" skin, externally stiffened, to standard smooth-skin structure with internal bracing—replacement of present split-type flaps by conventional "aileron-type" flaps—increase by 4.78 sq. ft. of the plane's wing-tip "booster" ailerons. The latter change was ordered to give control sensitivity lacking previously at low landing speeds.

If the Pioneer goes into commercial production a further structural change will be made in the central fuselage area, changing the present cylindrical cross section to a modified rectangular area to gain more floor space and greater seating capacity as a feederliner. Northrop engineers consider that this modification will not alter the airplane's aerodynamic characteristics and will not be necessary in prototype demonstrations. Another minor change now being made is installation of a spring tab on the elevator to lighten control forces.

John W. Myers, Northrop vice-president in charge of sales, said the tail modification was indicated because Northrop engineering studies had disclosed that the smooth skin structure will have lower maintenance and repair costs. No changes are being made in the major structural components of the wing.

Props Here to Stay?

The propeller will remain the dominant means of transmitting propulsive power for aircraft of the future for all passenger and cargo flights conducted at speeds below that of sound. Such is the position of Hamilton-Standard Div. of United Aircraft Corp. as reported in the Beehive, company publication.

Below the speed of sound, propellers can be made more efficient than jets or rockets; and propellers, possibly augmented by jets, will power all passenger and all cargo carrying flights for years to come. This is true also of long-range bombers.

The conventional propeller is adaptable for use both with piston-driven engines and gas turbines. A gas turbine driving a propeller retains all the propulsive advantage of efficiency over the jet and rocket, and benefits at the same time by its simplicity and lower weight advantage over piston driven power units, the article contends.

Industry Observer

► Chance Vought's new fighter the XF7U-1 will be a tailless, sweptback wing version of the Pirate. (XF6U-1). Vertical fins will be carried on both wings.

► Entire De Havilland design staff is now concentrated on development of the DH 106 a high speed transport powered by four Ghost turbojets. Wing plan will follow roughly the sweepback of the ill-fated DH 108 in which Geoffrey De Havilland was killed last year.

► Shell Oil is developing a 130 octane aviation fuel that will be suitable for operations in weather as low as 50 degrees below zero.

► De Havilland has a \$16,000,000 backlog of orders on the Dove, 8 to 11 passenger feederliner and \$32,000,000 in Royal Navy orders for new versions of the Hornet and Mosquito. Production rate on the Dove is now two per week with deliveries retarded because production on Gipsy Queen engines has not yet caught up with airframe production.

► First flight tests on the Percival Merganser feederliner indicated that so much has been added to the design weight that the payload now consists of "verbal messages." Plane will be redesigned in an effort to recover the lost payload.

► Stanley Hiller, Jr., is shooting for a September test flight on a new commercial helicopter that will be larger than his experimental commuter. The new 'copter will have a single rotor with a new seven-part simplified control assembly. Four models are now under construction.

► Convair has abandoned the designation Model 240 for its new transport and henceforth will plug it as the Convair-Liner. First NX model was originally scheduled for delivery to American Airlines but will be retained by the company to speed CAA licensing tests. Western will get the first NC plane.

► ATA president Emory Land disclosed that the United States Government spent \$1,000,000 on the search for Amelia Earhart in the South Pacific.

► North American has launched a hiring campaign to add 1,600 production workers for a stepped up FJ-1 Navy program at its Inglewood plant and the AAF B-45 project at the former Douglas Long Beach plant.

► Southwest Airways, West Coast feederline, probably will be the first air carrier to conduct service tests on the new Allison 65 lb. airborne scope radar. Southwest has ordered a demonstration unit and if satisfied will place an order for 10 sets. Southwest has long been interested in practical application of a radar beacon airway as recommended in the Hinshaw Report (AVIATION WEEK, July 21).

► Solar Aircraft Co. has \$700,000 in new orders for C-54 stainless steel manifold parts for Navy PB4Y-2 manifolds and sheet metal components for the Allison model 400 turbojet engine.

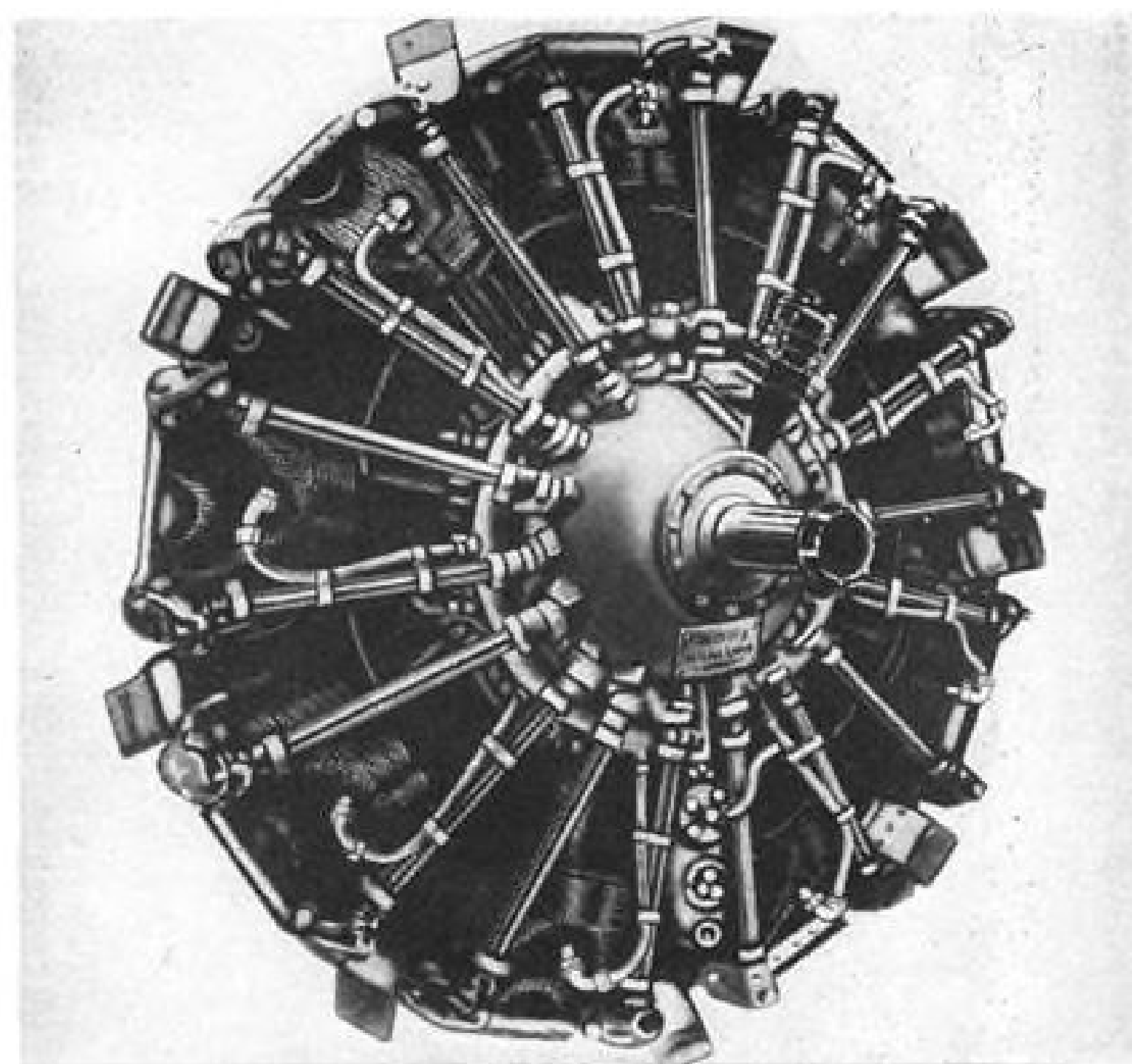
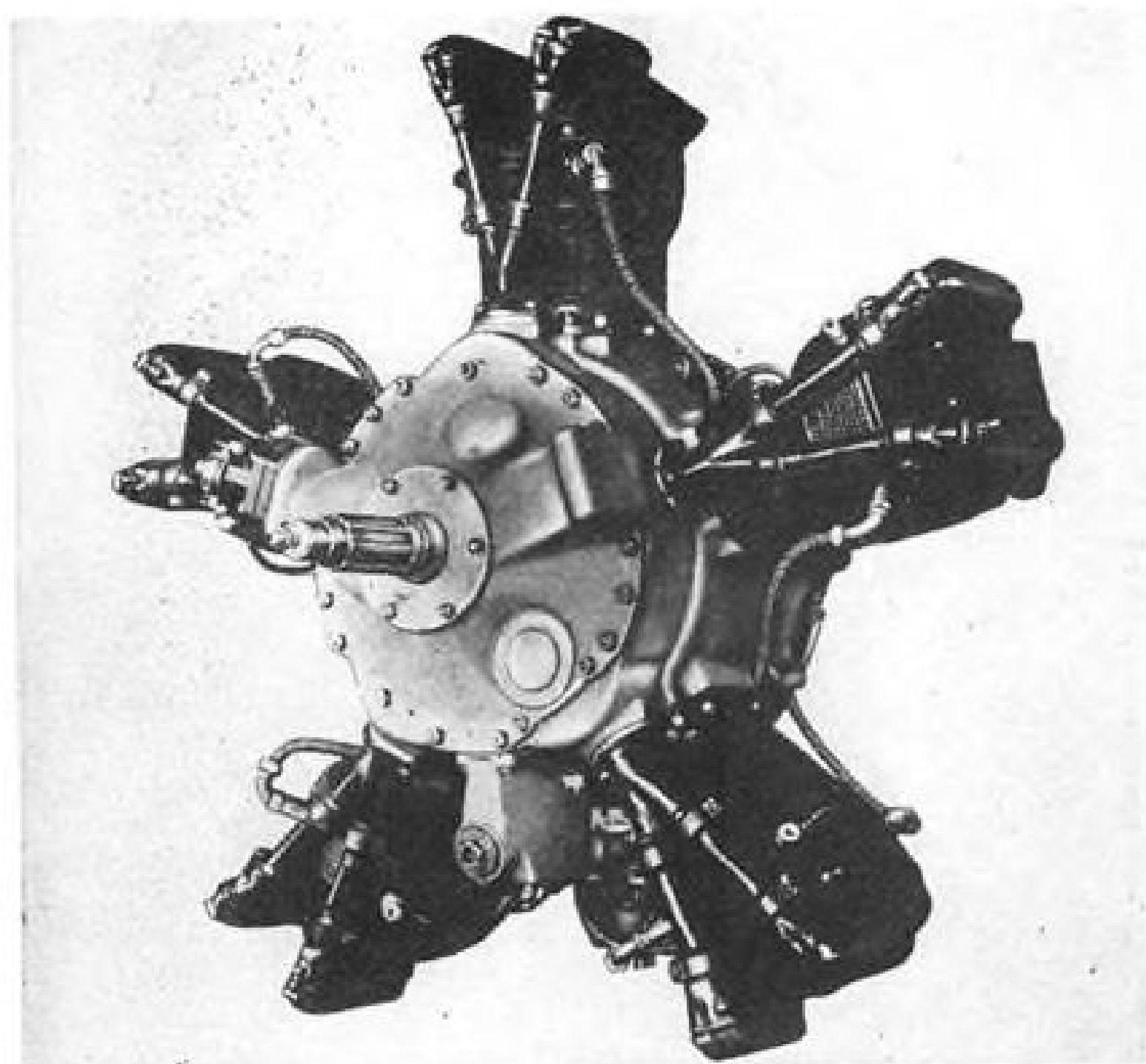
► Iraq Government is taking delivery on 30 British Hawker Fury fighters and four dual control fighter type trainers.

► Vought has reported a new compressibility problem on high-speed fighters: "snaking." This is a rapid directional oscillation of the airplane although not rapid enough to be classified as flutter. Snaking makes gunnery difficult because the swinging of the tail prevents holding sights on the target. Cause is peculiar airflow over the aft region of the XF6U-1 Pirate and other similar high-speed fighters. Snaking joins aileron "buzz" as two major new problems in transonic stability and control.

► North American's XB-45 nacelles solve a major problem presented by structural difficulties in installing a turbojet engine along the wing chord line, most efficient location. Although the engines lie below the wing, for structural reasons, NAA engineers located the air intakes high in the nacelle in line with the wing chord, thereby satisfying the requirements for minimum air intake nacelle drag.

► Sales promotion of Horace T. Pentecost's "Hoppi-Copter" (Seattle) is under way with display of a tripod landing gear model at the World Inventors Exposition in Los Angeles. R. W. Allen, Secretary of Hoppi-Copter, Inc., said that funds have been raised to complete development of what is expected to be a production unit, "Model 102." To date the testing of the model has been limited to brief low-level hovering flights within the ground cushion. No transitional flights have been attempted. Estimated performance calls for 96 mph. forward speed and 15,000 ft. ceiling. The model mounts a 35 hp. two-cycle engine, counter-rotating coaxial rotors of 16 ft. disc, and weighs 175 lbs. dry. Power to rotors is applied through a 10-to-1 gear box. The unit is expected to sell for under \$1000.

► First airline service testing of Boeing's "Stratofreighter" is expected to coincide with the advent of the U. S.-Orient 25 cent airmail rate. Air Transport Command's C-97 is being prepared at Fairfield Air Base (Calif.) for flight to Honolulu. Timing of the first trans-ocean flight with issuance of the 25 cent stamp is because the stamp shows a C-97 flying over Golden Gate Bridge at San Francisco.



M-11F, 145-HP. radial developed from French Lorraine 5P, powers trainers such as U-2 and UT-2, which have been in service since before World War II. Larger versions of the M-5 have not been used extensively.

M-63, WITH TWO-SPEED supercharger is rated at 1,100-take-off hp. Developed from American Wright R-1820 Cyclone, it powers PS-84 (Russian-built Douglas DC-3), GST (Russian built Convair PBY), and IL-2, shown here.

Evaluating Russian Aircraft Engines

By PAUL H. WILKINSON,
Editor, Aircraft Engines of the World

Genealogy and ratings of seven piston engines powering majority of Red Air Force trainers, fighters, bombers and transports.

Though considerable information has filtered through the Iron Curtain on Russian aircraft, very little engineering data has been disclosed on their power plants. Now, however, it is possible to see what these Russian engines look like, and to compare them with those of other nations.

Russian aircraft engines now in production have all been developed from well-proven power plants of American, French and German origin. They are of rugged design, with simplicity emphasized in their construction details, such as the use of poppet valves and gear-driven superchargers.

Seven basic types of reciprocating engines are taking care of the needs of the Red Air Force, with two additional types under development. Regarding jet engines, it is doubtful whether many jet engines have reached sizable production in Russia but when they do, undoubtedly they will be copies of German or British designs.

► **Trainer Types**—In the aircooled engine field in Russia, the smallest power plant is the M-5, a 5-cylinder radial of conventional design developed some years ago from the French Lorraine 5P (model 49). Earlier models of the series such as the M-11E were rated at 110 hp., and the M-11F now in production has a maximum output of 145 hp. These engines are used in primary training planes such as the U-2 and the UT-2. Larger versions of the M-5, such as the 7-cylinder M-21 rated at 220 hp. and the 9-cylinder M-31 rated at 320 hp., using the same cylinders and parts, have been built but have not been extensively used.

The M-63, the only 9-cylinder radial now in production, traces its development back through the M-62 and the M-25 to the American Wright R-1820 Cyclone. The M-63 has a 2-speed supercharger and is rated at 1,100 takeoff hp., while the M-62 which preceded it is rated at 1,000 hp.

These two engines are used in advance training planes such as the I-15-3, and in 2-engine transport planes such as the PS-84 (Douglas DC-3) and the LI-2 of similar design. The M-62 is also used in 2-engine flying boats such as the MDR-6 (Douglas Dolphin) and the GST (Consolidated PBY Catalina).

The M-82 is a relatively new 14-cylinder radial which reached the production stage toward the end of World War II as a countermeasure to the German BMW 801. Developed from the American Wright R-2600 Cyclone and equipped with a 2-speed supercharger, the M-82FNW is rated at 1,850 hp. at takeoff, comparing quite favorably with the 1,900 hp. output of its American prototype. This Russian engine has direct fuel injection using a 14-plunger barrel type injection pump of German Deekel design. Other models of the series such as the M-82-111 and the M-82-212 are equipped with downdraft carburetors.

THE Swift IS HERE TO STAY!

A Statement by Texas Engineering & Manufacturing Co.
... New Manufacturers of the Famous All-Metal Swift

THE GLOBE SWIFT has been acclaimed one of the nation's few truly "post-war" personal aircraft. It combines advanced performance with exceptional utility and flying ease. Many pilots call the Swift the finest airplane in the two-place field. More than 1,200 Swifts now flying in North and South America, Africa, and Europe have won international recognition for splendid cross-country performance. Texas Engineering & Manufacturing Co., Inc., is proud to announce the purchase of patent and manufacturing rights on the Swift from the Bankrupt Globe Aircraft Corporation along with tools, raw materials, supplies and sub-assemblies. Temco's full resources are now behind continued Swift production and servicing. We assure all Swift owners, dealers, and prospective customers that the Swift is in the field to stay.

Financial Strength, Manufacturing Experience

Temco is one of the Southwest's major post-war industrial firms. Gross sales in 1946 totaled more than \$5,000,000.00 with more than \$6,000,000.00 gross business scheduled for the current year. Temco

is operated by former executives of North American Aviation in 1,000,000 square feet of the former N.A.A. plant near Dallas. Almost 2,000 skilled workers are employed in the air-conditioned plant and about 90% of them are experienced former North American Aviation employees. Temco's many different manufacturing activities help guarantee stability and security for both dealers and customers. Production of the Swift is not new to Temco, as 330 Swifts were produced on contract for Globe Aircraft Corporation, and 40% of the component parts for all Globe Swifts were Temco made.

A CAA Certified Operation—The Civil Aeronautics Administration has certified Temco as an aircraft manufacturer, conversion, and modification plant. Contracts are now in the shop for the U. S. Army Air Forces, and several domestic and foreign airlines, Fairchild Airplane Co., and for non-aviation commercial products. Temco has plenty of plant and plenty of "know how" to build real aircraft quality into the new Swifts.

Swift Prices Go Down!

Now you can get your new DeLuxe Swift for \$3,750, or the Standard Swift at \$3,250. Temco plans to build sales by keeping prices in line with competition and by giving you the most airplane per dollar.

Both models are ready for immediate delivery.

How can we reduce prices now? More than \$2,000,000 were invested by the now dissolved Globe Aircraft Corporation in developing the Swift to its present state of perfection. With these heavy expenses already taken care of, Temco can produce the Swift at lower cost. These savings are passed along to you in the form of an even better Swift at a lower price.

Two important improvements on the new Temco Swifts are the Steerable Tail Wheel and (on the DeLuxe only) a Metal Top Canopy.

Service and Parts Are Available

Plenty of genuine Swift parts are in stock now. Parts and Service are offered through established dealers with factory service offered where dealer service is not available. Nation-wide Sales and Service organization is now being set up. Write for the name of nearest Dealer.

The Swift is the only airplane in its class approved by the Veterans Adm. as a secondary trainer for G. I. flight schools.

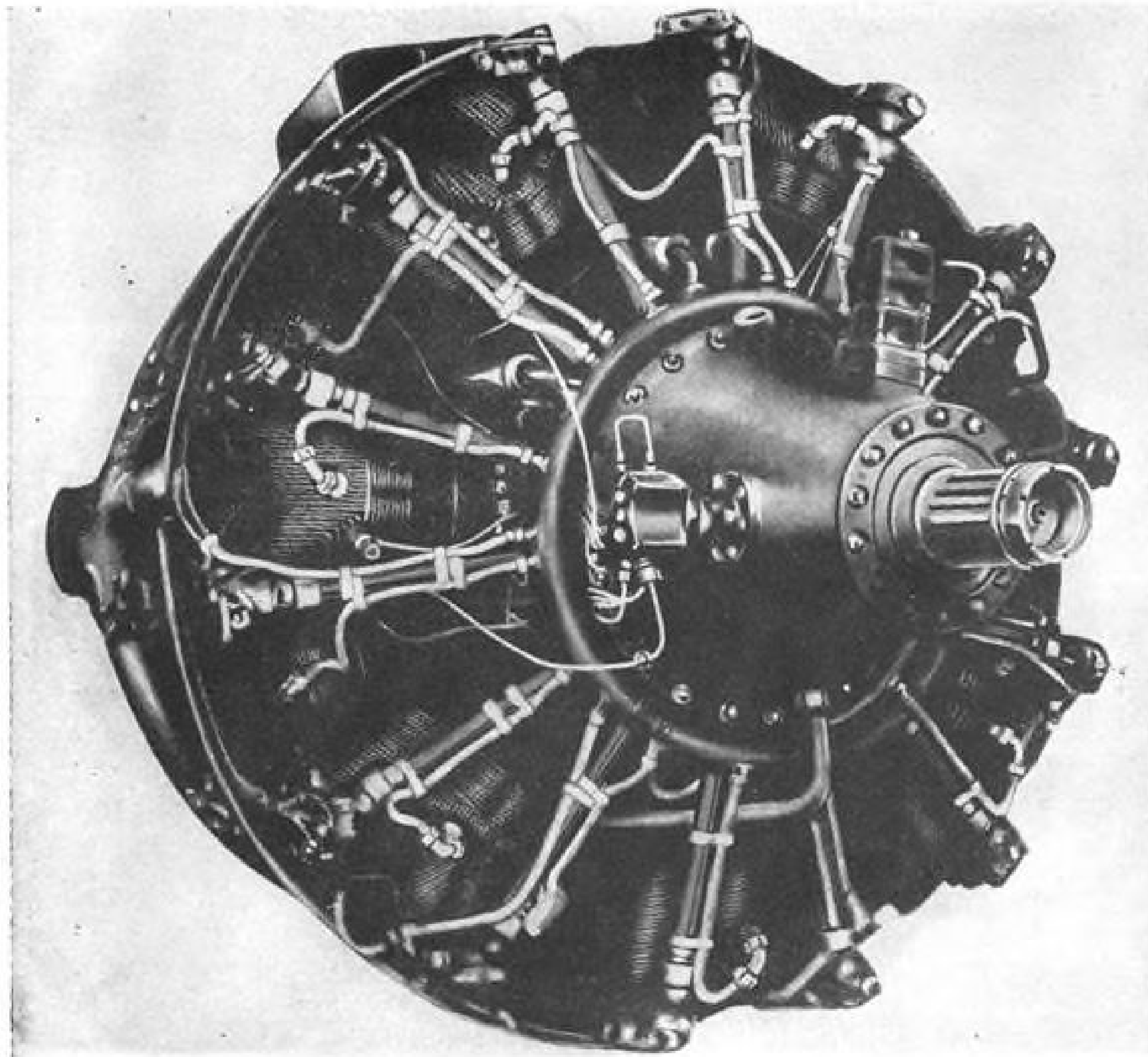


To Swift Owners—So that you may be registered as a Swift owner to receive new Service Bulletins and other valuable information, you are invited to write immediately to Owner Service Department giving your name, address and the N. C. and manufacturer's Serial Number of your Swift.

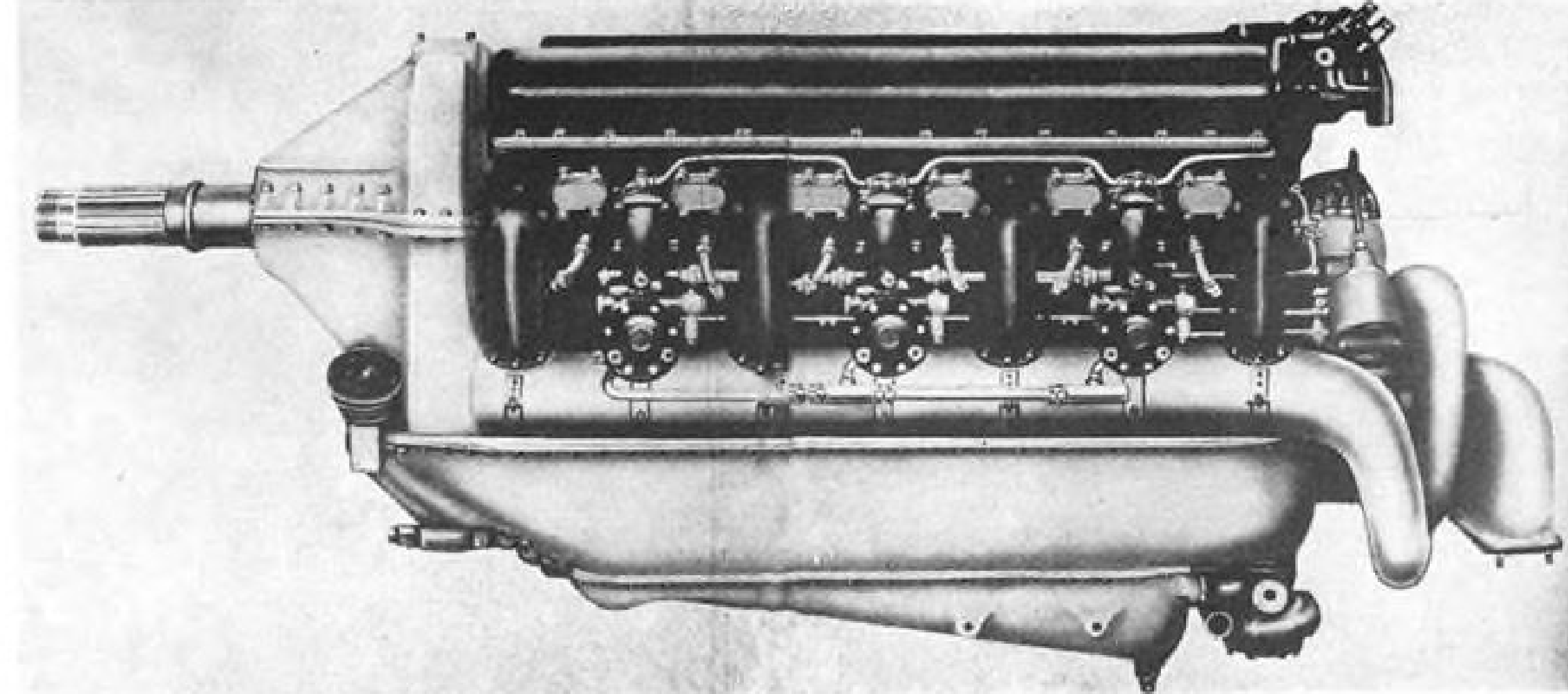
TEXAS ENGINEERING & MANUFACTURING CO., Inc.

P. O. BOX 6191A

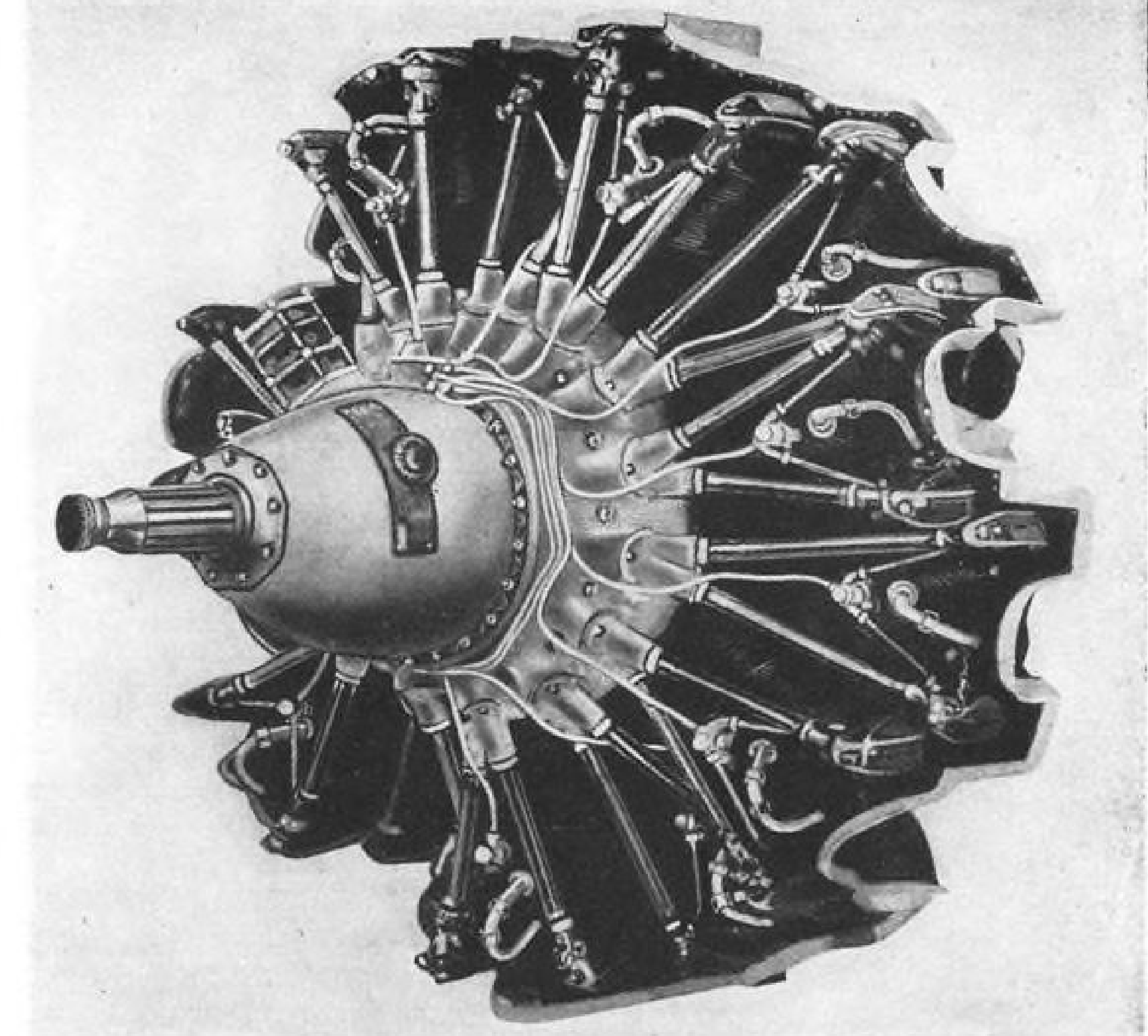
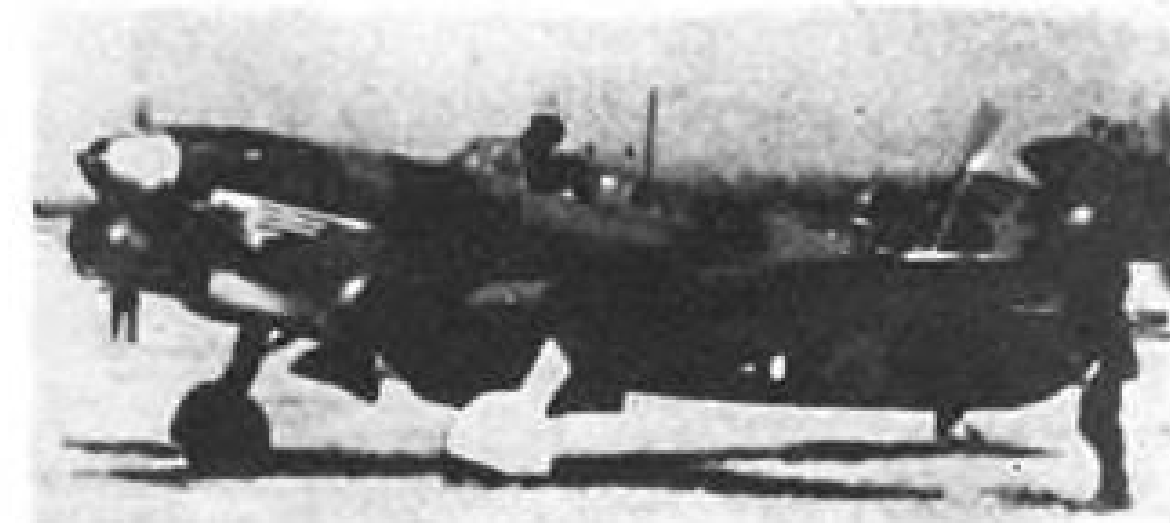
DALLAS, TEXAS



M-82 FNV of 1,850 hp. was developed from Wright R-2600. Powers LA-5 and YAK-7 (illustrated) fighters, IL-4 and TU-2 bombers and TB-7 four engine bomber-transport.



M-107A, WITH FOUR VALVES per cylinder and improved supercharging delivers 1,600 hp. up to 5,600 ft. Used in YAK-9 and -11 fighters and others now in production for Red Air Force.



M-88B, 14-CYLINDER radial is rated at 1,100 hp. and is descendant of French Gnome-Rhone 14. Used in IL-4 as shown, and SU-2 twin engine bombers.

The M-82FNV is used in some of the latest Russian fighters such as the LA-5 and -7, and the YAK-7. It is also used in such bombers as the 2-engine IL-4 and TU-2, and the 4-engine TB-7 (PE-8). Transport planes powered with it include the 2-engine IL-12, a larger version of the LI-2 of Douglas DC-3 origin.

► **French Ancestry**—The M-88 is a 14-cylinder radial of French origin with its ancestry going back through the M-87, M-86 and M-85 to the Gnome-Rhone 14N. Rated at 1,100 hp. at takeoff and equipped with a 2-speed supercharger and an updraft carburetor, the M-88B is used in IL-4 (DB-3F) and the SU-2 twin engine bombers. A later model known as the M-89 equipped with direct fuel injection and rated at 1,300 takeoff hp. and 1,140 hp. at 19,700 ft., is

used in the most recent model of the SU-2 bomber. It also powers the new IL-18 4-engine transport which bears considerable resemblance to the Douglas DC-4.

An 18-cylinder aircooled radial similar to the American Wright R-3350 is under development for use in Russian copies of the Boeing B-29. It may be equipped with direct fuel injection.

In the liquidcooled engine field, Russia has concentrated most of its efforts on conventional 12-cylinder vee-type powerplants based on French, American and German designs. Most extensively used of this type is the 12-cylinder M-105 which can be traced back through the earlier M-103 and M-100 to the French Hispano-Suiza 12Y. Several models of the M-105 are in production. The M-105P and the

M-105PA are rated at 1,100 hp. at takeoff and have provision for a cannon or shell gun firing through the hollow propeller shaft. The M-105PF is similar to the M-105P but has a rating of 1,260 hp. at 2,600 ft. for low-altitude operation in ground attack planes. The M-105PD is similar to the M-105P, but has a 2-stage supercharger with hydraulic coupling and is rated at 1,055 hp. at 21,000 ft. The supercharger equipment on the M-105PD is similar to the 2-stage installation on the Allison V-1710-E30 used in Bell Kingcobra fighters supplied by America to Russia during World War II. The M-105R is similar to the M-105P but has no provision for a cannon.

► **Fighter Engines**—The M-105P with a 20-mm. cannon is used in fighters such as

the LAGG-3 and the YAK-1, and the low-altitude M-105PF is used in ground attack planes such as the YAK-1B, the YAK-9T "tankbuster" equipped with a 37-mm cannon, and the 2-engine PE-2. This latter engine is also used in the YAK-7B advance trainer. The M-105R, without cannon, powers the AR-2 (SB-RK), ER-2 and YAK-4 twin engine attack bombers.

A further development of the M-105 is to be found in the new M-107 engine which, although of the same displacement and basic design, is credited with a takeoff power output of 1,600 hp., which is maintained to 5,600 ft. This is made possible by the use of four valves per cylinder instead of three, improved supercharging and other modifications copied from the more recent Hispano-Suiza 12Z. The M-107A is

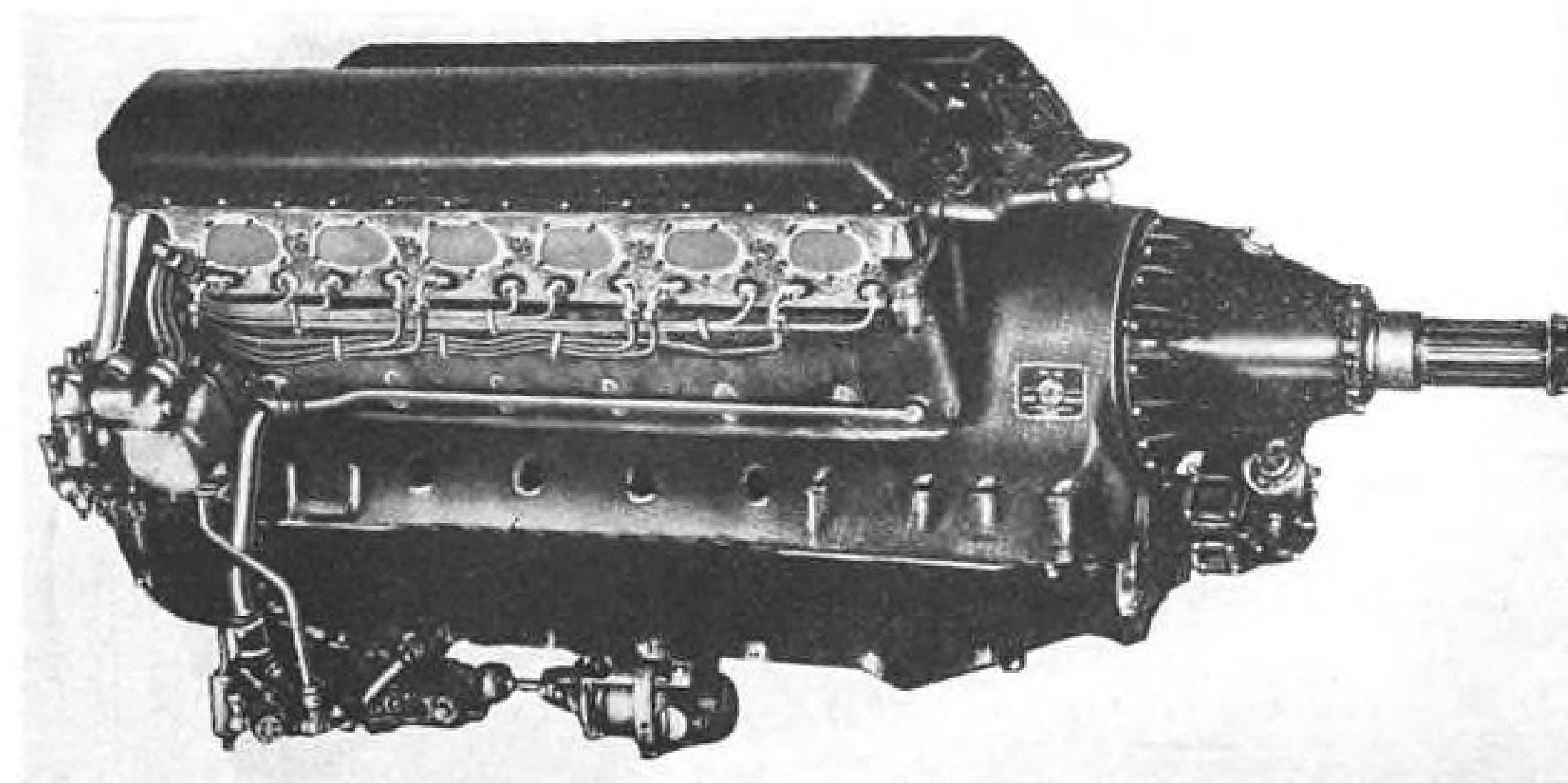
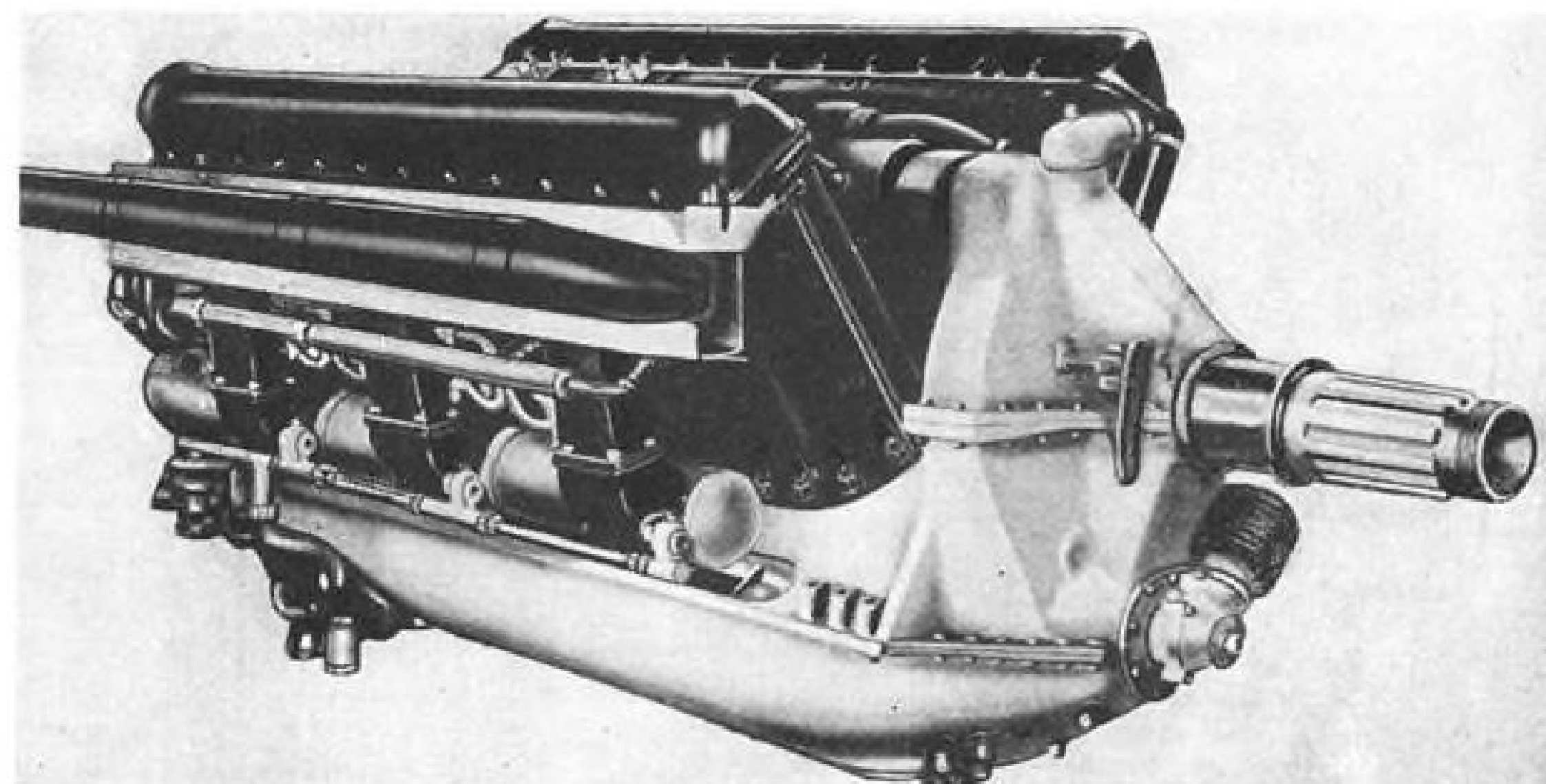
used in YAK-9D and YAK-11 fighters, and in other new aircraft now in production for the Red Air Force.

The AM-38, largest liquidcooled gasoline aircraft engine produced in Russia, owes its origin some 15 yr. ago to the American Curtiss Conqueror and the German BMW VI (also manufactured in Russia under the number M-17). Although the American and the German engines were of considerably smaller displacement, many of their basic features were embodied in the M-34— forerunner of the AM-35 and the AM-38— when it was exhibited at the Paris Aero Show in 1934. The AM-38A, rated at 1,600 hp. and the AM-38F which has a maximum rating of 1,700 hp., still have four carburetors between the cylinder blocks as originally used on the Curtiss Conqueror.

The AM-35A, a somewhat earlier model, is rated at 1,350 takeoff hp. and 1,200 at 19,700 ft. using a single-speed supercharger having a ratio of 14.6:1. The AM-35A is used in fighters such as the MIG-3, and in 4-engine bombers such as the TB-7 (PE-8). The AM-38A powers the latest model of the IL-2 "Stormovik" armored ground attack plane.

► **Diesel Engine**—Another Red engine under development is of particular interest as it is for the most part of Russian design—and is a Diesel. Known as the M-40, this 12-cylinder upright vee liquid cooled powerplant of 3,800 cu. in. displacement went into small scale production in 1941. The M-40F model is rated at 1,500 hp. for takeoff and 1,250 hp. at 19,700 ft.

M-105P IS descendant of French Hispano-Suiza family. Delivers 1,100 hp. at takeoff. Mounted in LAGG-3 and YAK-1 ground attack planes, with cannon firing through hollow propeller shaft. Also used in PE-2 shown here.



AM-38F, WITH TOP RATING of 1,700 hp. is reported most powerful liquid cooled engine now in production in Russia. Developed from Curtiss Conqueror and BMW-VI, it powers MIG-3 (shown), latest IL-2 Stormovik and TB-7. (Engine photos copyright, 1947 by Paul H. Wilkinson)



CHECK MY MAGS ?

AW, DON'T BE SILLY—

LAST TIME UP

SHE FLEW LIKE A DILLY



**PLAY IT
SAFE
WITH...**

Neglecting preflight procedure is one sure way to keep your plane from growing old. A less hazardous method is the proper finishing of aircraft. Murphy formulations for finishing, refinishing, and maintenance are designed to help keep planes youthfully trim. You'll find them at airports and refinishing shops the country over or write: Interchemical Corporation, Finishes Division, 350 Fifth Avenue, New York 1, N. Y.

Interchem Aircraft Finishes

Engineered by **MURPHY-ROXALIN**

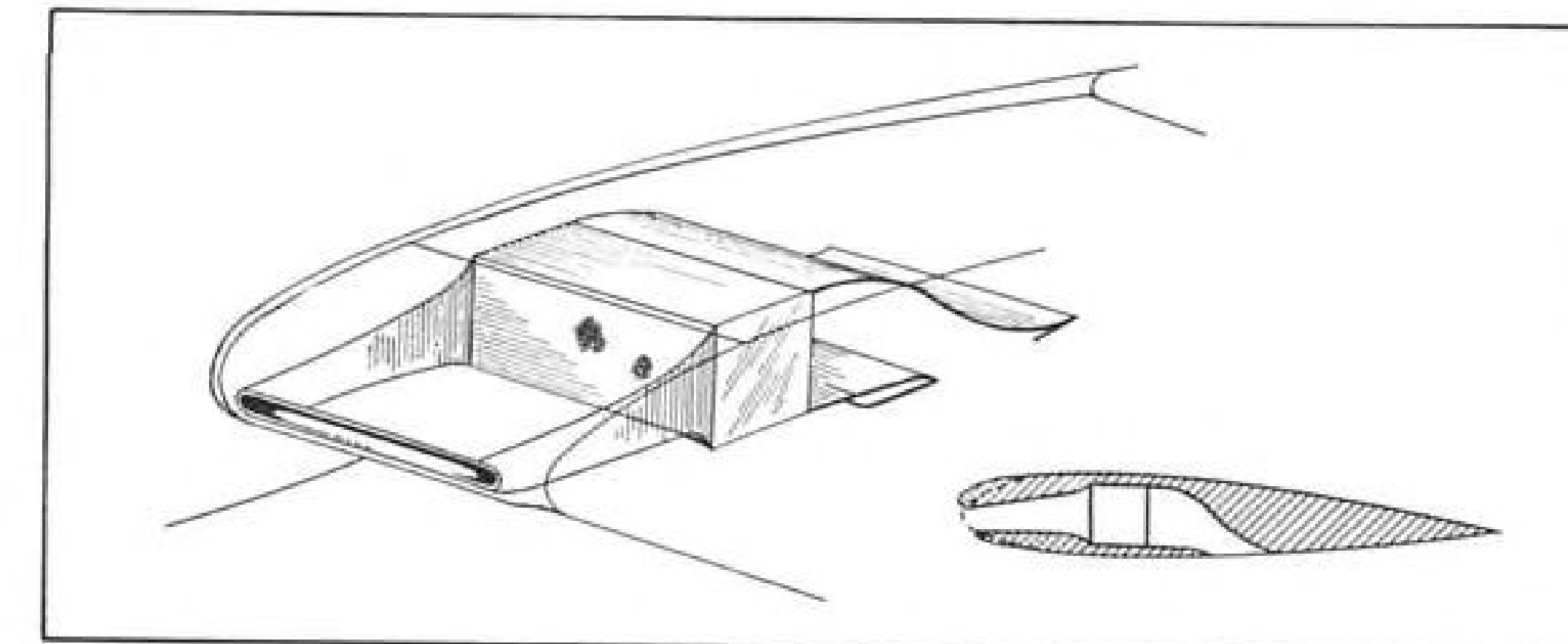


Searching Drag Studies Check Speed Impeders

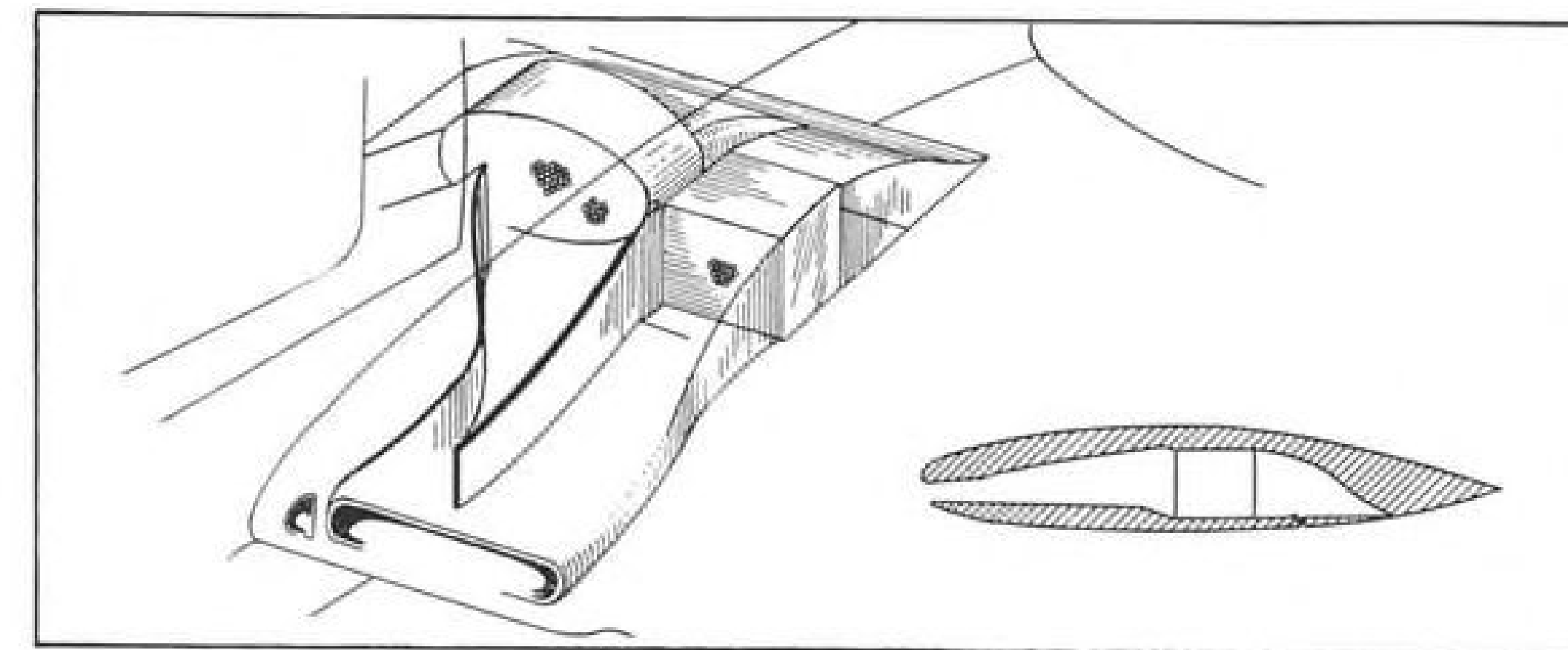
Part III

To determine undesirable aerodynamic characteristics, exhaustive drag investigations on various military craft were conducted in the Langley full-scale wind tunnel of the National Advisory Committee for Aeronautics. Data obtained is presented here in the form of sketches showing original in-

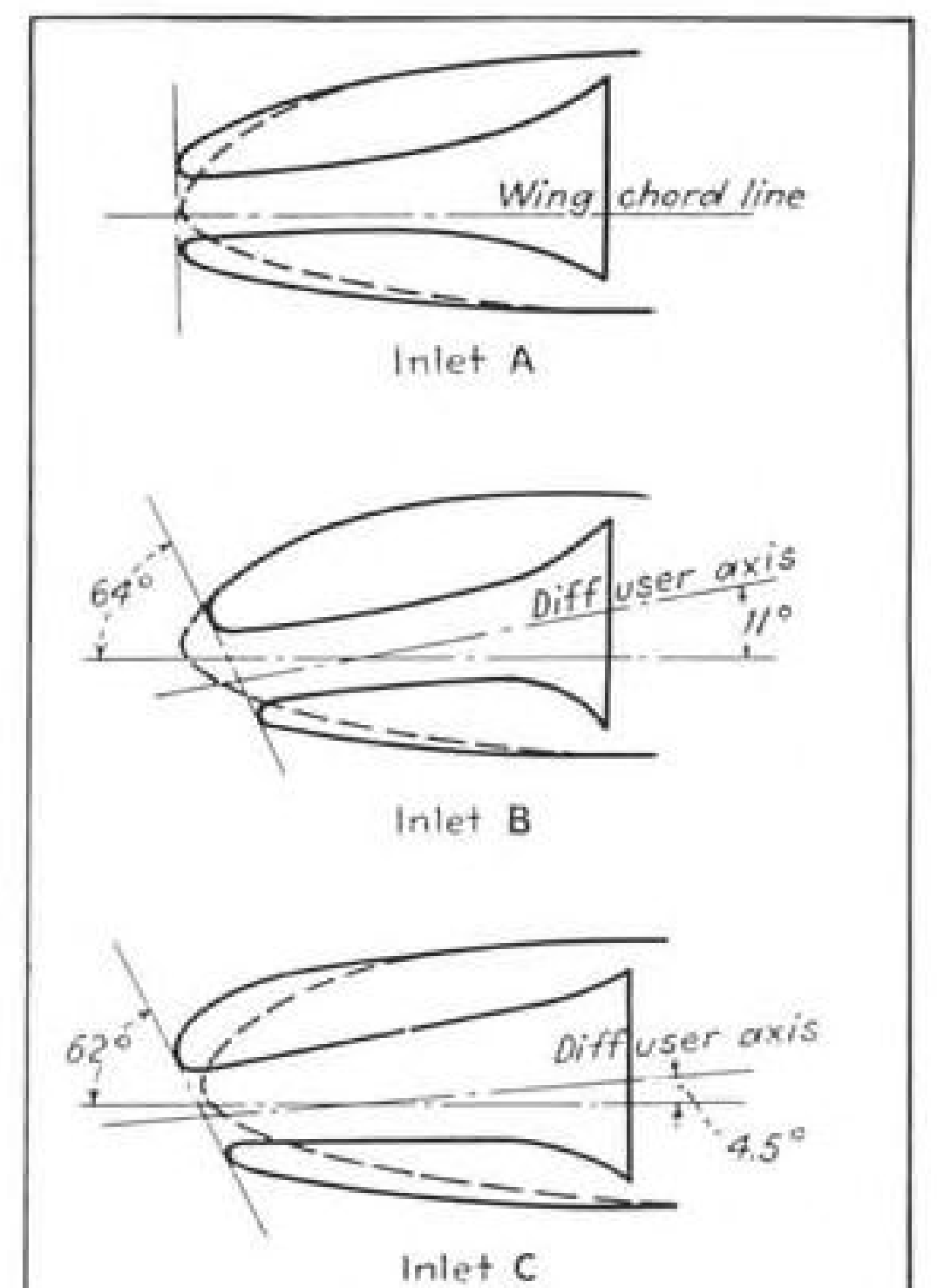
stallations together with modifications studied, and a discussion of the main results of the tests made. Parts I and II, detailing cowling drag factors, appeared in May and June Aviation. We continue the analysis here with results obtained from investigations of ducting installations.



DRAG DECREASED WITH MODIFIED INLETS. General arrangement of original wing duct installation is seen above, and representative inlet shapes tested for craft are shown at right, top. Small sharp-lip inlet (A) with inlet plane perpendicular to wing chord and diffuser axis parallel to chord, showed lowest drag at low lift coefficients. At high lift coefficients, internal flow separated from lower lip and resulted in pressure recovery loss at radiator face. Inlet (B) was designed to obtain higher pressure recoveries at high lift coefficients, but at low lift coefficients pressure recovery was less than for inlet (A) because separation occurred just inside upper lip. No separation occurred at high lift coefficients and pressure recovery was higher with inlet (B) than with (A). Drag of inlet (B) was highest of those tested. Compromise inlet (C) was found most satisfactory in light of high pressure recovery and low drag for wide range of flight conditions. When inlet lips are extended (C), design should be executed with due regard to external shape. Since no drag data were available for inlet (C) at $Q/V_\infty = 0.56$, drag increment shown was estimated from available data at $Q/V_\infty = 0.70$.

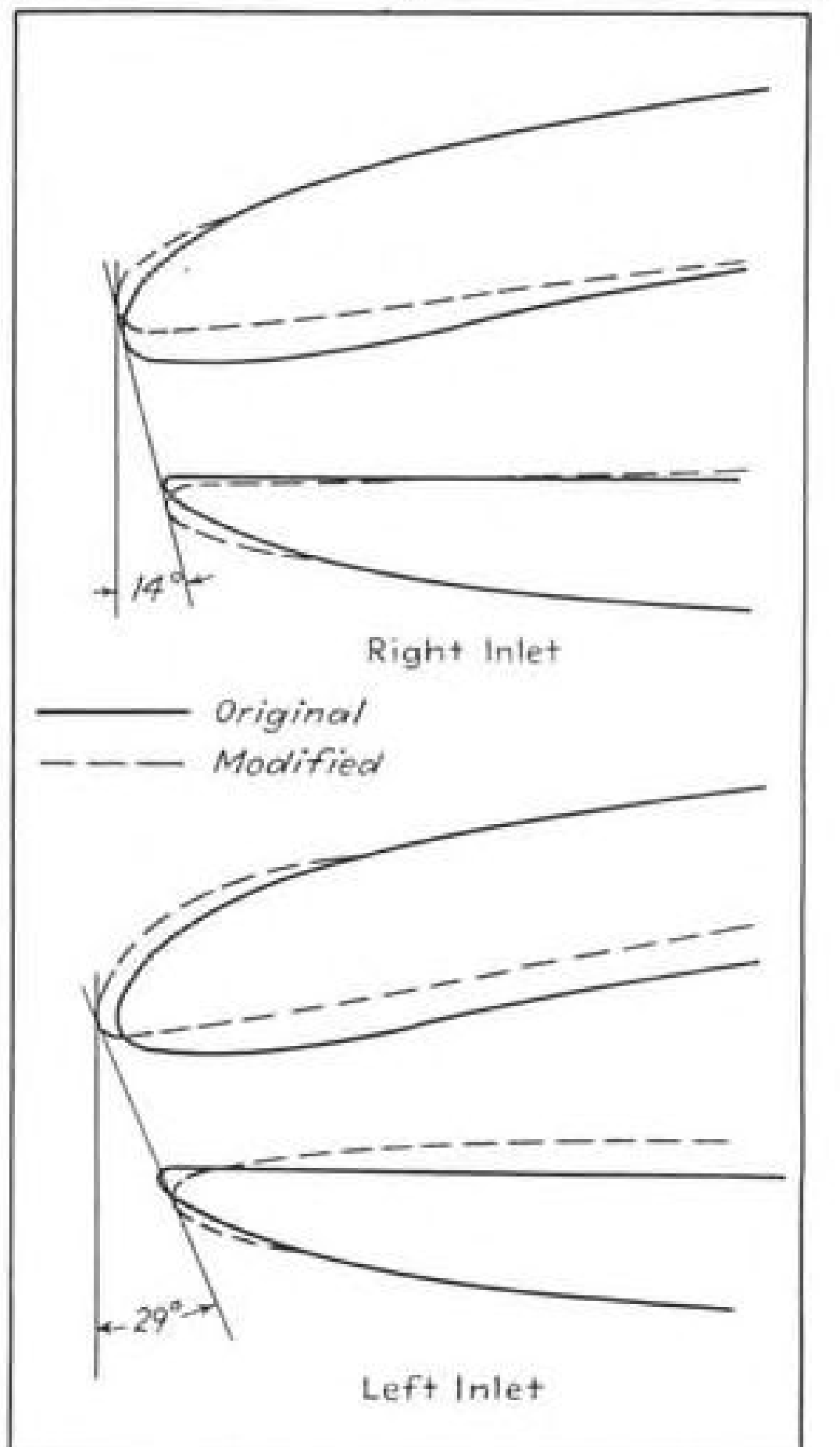


RESULTS ON OTHER CRAFT showed drag coefficient increment of 0.0013 when seals were removed from wing duct inlets and exits with exit flaps at 0 deg. for high speed condition. Removal of seals from holes for flap-control push rods in top of duct exits added increment of 0.0004, giving total drag coefficient of 0.0017 for original installation, with large quantity of air flowing through duct because of leakage at exit flap. Tests with propeller operating showed serious losses in total pressure recovery as result of misalignment of duct lips to airstream caused by slipstream rotation. To remedy condition, modified inlets (represented by dash lines in sketch at right) were installed with plane of inlet on side of upgoing propeller blade tilted 15 deg. farther downward than plane of inlet on side of downgoing blade. Further modification consisting of increase in areas of left and right inlets from 55 to 73 sq. in. was made to lower inlet velocity ratio. For high speed condition, with exit flaps at 0 deg., modified inlets decreased drag coefficient 0.0005 and increased total pressure 15% at faces of radiators. Cooling was improved for both high speed and climb conditions with modified inlets.



Inlet	C_L	ΔC_D	Q/V_∞	$H-P_\infty$
A	0.12 0.89	0.0006	0.56	0.95 q_∞ 0.22 q_∞
B	0.12 0.89	0.0022	0.56	0.86 q_∞ 0.87 q_∞
C	0.12 0.89	0.0011 (Estimated)	0.56 (Estimated)	0.95 q_∞ 0.68 q_∞

C_L - Lift coefficient
 ΔC_D - Drag coefficient increment
 Q - Quantity rate of flow, cu.ft. per sec.
 V_∞ - Free stream velocity, fps.
 H - Total pressure, lb. per sq. ft.
 P_∞ - Free stream static pressure, lb. per sq. ft.



**ALCOA FACILITIES
CAN GIVE YOU A**

**WIDTH
BONUS**

In all-metal aircraft construction, an extra wide sheet can often mean a saving in weight, a production economy, and a surface that is aerodynamically cleaner.

Alcoa's facilities for producing these extra-wide sheets have aided in the development of "sandwich" materials, from wide, thin Alcoa Aluminum Sheet. In the heavier thicknesses, these wide sheets can eliminate laps and attendant rivets in aircraft of the commercial size. The very heavy thicknesses are employed in the highly-stressed skin structures of large or high-speed military aircraft, where a fair surface and elimination of lap weight are of critical importance.

Alcoa facilities like this are the result of years

Standard .016 Sheet Maximum Width . 36"

ALCOA MAXIMUM 48"

Standard .040 Sheet Maximum Width . 48"

ALCOA MAXIMUM 60"

Standard .125 Sheet Maximum Width . 60"

ALCOA MAXIMUM 72"

of close co-operation with the aircraft industry, and our policy of working unceasingly to increase aluminum's usefulness. ALUMINUM COMPANY OF AMERICA, 2182 Gulf Building, Pittsburgh 19, Pa. Sales offices in principal cities.

MORE people want **MORE** aluminum for **MORE** uses than ever

ALCOA FIRST IN
ALUMINUM

IN EVERY COMMERCIAL FORM



Boeing Develops Baby Turbojet

150-lb. unit adaptable as auxiliary aircraft power plant or for surface use; companion turboprop seen available for advanced lightplane designs.

Boeing Aircraft Company has taken the wraps off its midget turbine powerplant project to disclose:

- A two-burner turboprop engine weighing 140 lb. and delivering 200 shaft horsepower with an added 50 lb. thrust from exhaust;
- A two-burner turbojet engine weighing 85 lb. and delivering 150 lb. static thrust.

These are the engines AVIATION NEWS announced to the aircraft industry June 23 and said would be "about the size of a portable sewing machine."

While Boeing engineers anticipate that the turboprop (Model 502) may easily revolutionize the personal airplane engine market, and prod airplane designers into developing pressurized light planes for high and fast turbine-powered flight, officially the company is more conservative.

► **Immediate Uses**—The company admits that the turboprop model "appears suited for use in small airplanes as the prime power source," but quickly cites other and probably more immediate uses: auxiliary power in large aircraft; target plane power; boat propulsion; automobile power; stationary power plants.

For its smaller (Model 500) turbojet, Boeing sees immediate use as a starter engine for larger jet engines and as a propulsion unit for missiles, glide bombs and small airplanes.

At Seattle, Harold Mansfield, Boeing

director of public relations, told AVIATION WEEK that because the engines still are under experimental testing no conclusive information can be given on their fuel consumption.

To date the Model 500 prototype has had 100 hr. of running time, while component testing has gone well over 1,000 hr. Although normal operating speed is 36,000 rpm, no serious design problems have appeared during tests.

Minus tail pipe, the turbojet has a length of only 29 in. and a maximum diameter of 22 in. A 7.25-in. turbine wheel and centrifugal compressor are connected to a common shaft. Burner temperature is given as 1,500 deg. F.

Only slightly larger is the Model 502 engine, which has a length of 42 in. but no increase over the Model 500 in maximum diameter.

► **Production Possibilities**—While the two gas turbines are reported by Boeing officials to have been developed primarily as research projects, to gain turbine power plant knowledge at nominal cost, it now is quite apparent that the Seattle airframe builder may well become an engine manufacturer.

As might be expected, Boeing will look to the armed services for its initial engine market, and additional turboprop engines of the Model 502 design will be built immediately for military testing.



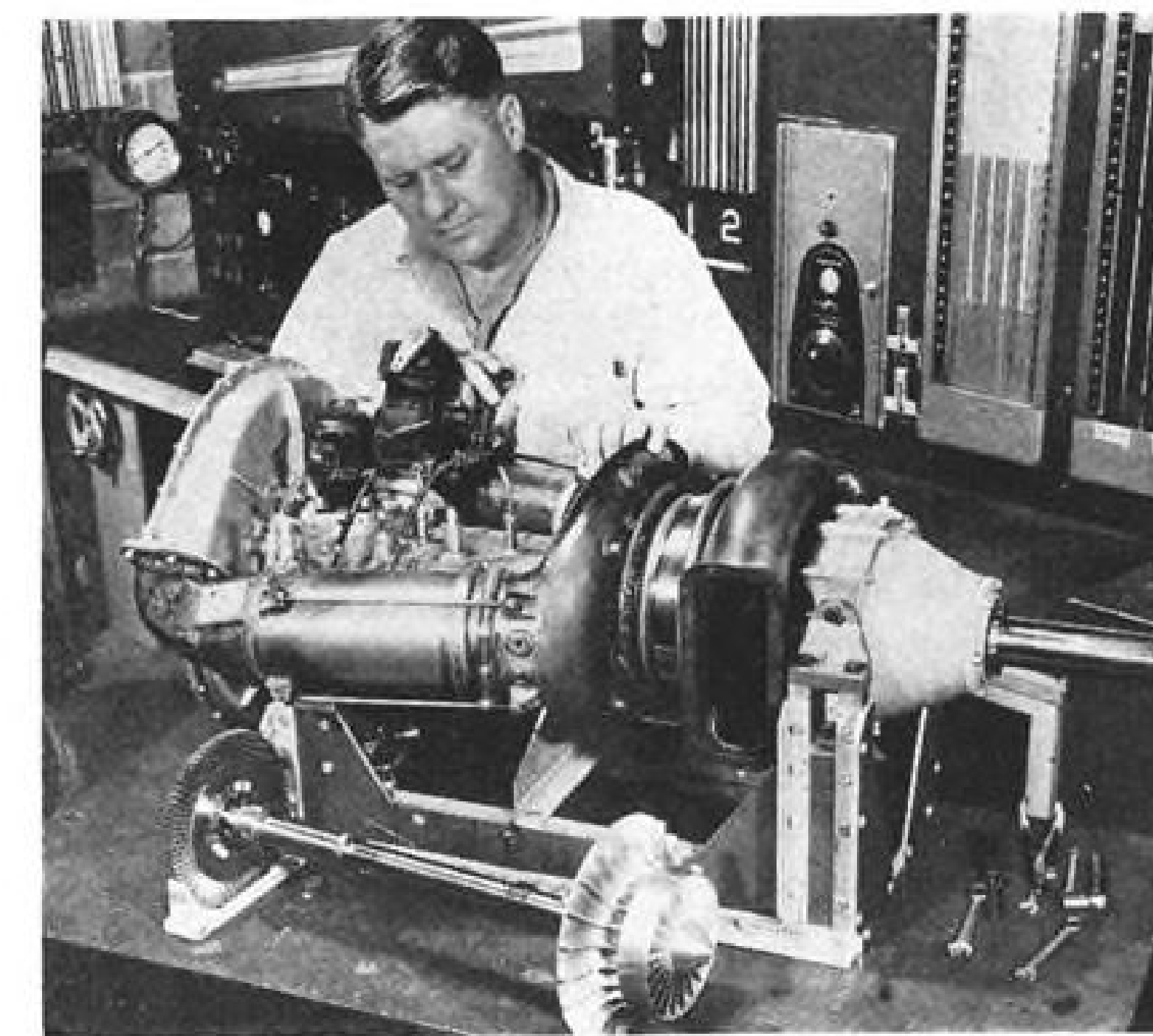
**BOEING'S FLEAWEIGHT
TURBOJET**

Boeing Model 500 turbojet, which develops 150 lb. thrust for weight of 85 lb. Companion unit, Model 502 turboprop, delivers 200 shp. and 50 lb. thrust for weight of 140 lb. Both are by-products of research done as first step in designing jet-powered aircraft, and when studies of individual components looked promising, company decided to build actual units for further evaluation. One result is that Boeing is now building additional experimental engines for military services. Model 500 is 29 in. long, 22 in. at max. diameter and has 7.25-in. turbine. Model 502, basically same engine except for additional turbine to drive propeller shaft through gear box, is 42 in. long.

Conceivably the military services might order the baby turbojet in mass quantities as engine starters having less weight and greater simplicity than electric starting systems now in use on U. S. prime mover turbojets.

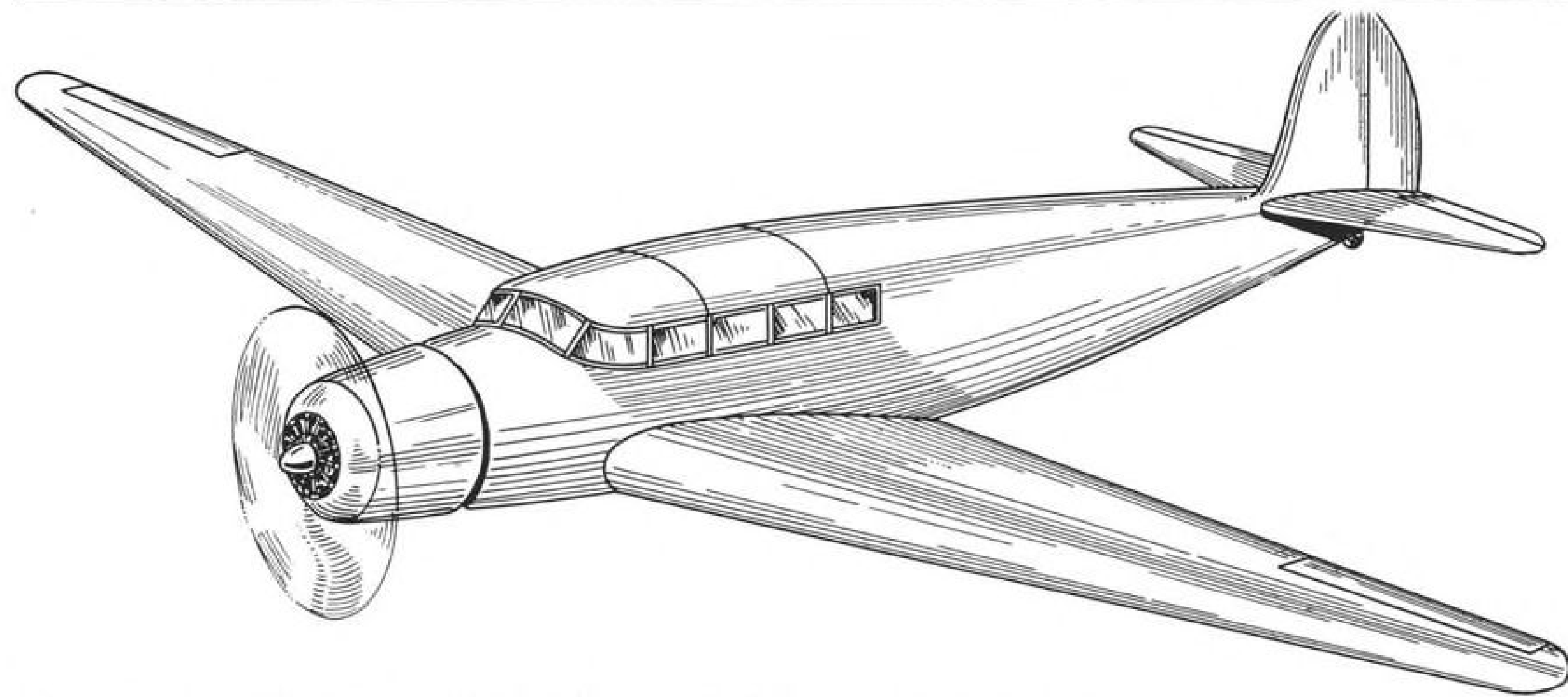


COMPRESSOR AND TURBINE of Boeing Aircraft Model 500 turbojet which develops 150 lb. static sea level thrust for weight of 85 lb. Though reportedly built solely to gain research information, unit is seen readily available as auxiliary power plant for large aircraft.



BOEING MODEL 502 TURBOPROP, delivering 200 shp. and 50 lb. thrust with weight of but 140 lb. Basically similar to Model 500, its maximum diameter is 29 in. Compressor-turbine speed of both units is 36,000 rpm. and burner temperature is reported at 1,500 deg.

NEW AIRCRAFT



Italians Diversify New Plane Types

Siai-Marchetti completing personal-charter prototype; running flight tests on four-engine 18-passenger-cargo liner.

Now under construction in Italy is the prototype Siai-Marchetti SM-101 (artist's conception of which is shown above), an all-metal craft designed for charter or personal flying.

Of conventional low wing construction, it seats pilot and five passengers. Design gross weight is reported at approximately 4,800 lb., of which 1,900 is given as useful load. For short takeoffs, wing area is 321 sq. ft., with span set at 53 ft. 8 in., length 33 ft., and height 9 ft. 10 in.

Powered by a 235-hp. Walter Bora engine, cruising speed at 70% of power is expected to be 140 mph. If the goal of keeping fuel consumption to .38 lb. per hp. hr. is achieved, the craft will use about .64 lb. per mi.

► **Four Engine Transport**—Currently undergoing test flights is the four engine Siai-Marchetti SM-95, (below) which appears to be a normal development of prewar Savoia-Marchetti types. Designed for a crew of two, 18 passengers and 1,400 lb. of baggage and cargo, it is powered by 930-hp. Alfa 128-RC-18 aircooled radials giving cruising speed of 185 mph. at 70% power. It is reported to have made 2,000-mi. flights with fuel consumption of 5.2 lb. per mi.

Span is 111 ft., length is 72 ft., height, 18 ft. 6 in., and wing area is 1,380 sq. ft.

Of all-metal construction, the craft features slotted flaps. Cargo compartments are provided both fore and aft of the wing below the passenger compartment.



Immediate Delivery

BUTLER BUILT
RADIAL HANGARS

DOOR OPENING—38' 10" WIDE x 9' 4" HIGH—ACTUAL CLEARANCE

NEW LOW PRICES

Stepped up production pays off! Butler's fire-safe tamper-proof Radial Hangars are now available for immediate delivery in single or multiple units—at new low prices.

For one to ten planes, or more, they afford each its own lock and key privacy—isolated by four walls from

rough and indiscriminate handling. The Up-Over-and-Under door raises freely by hand, rolls out of sight under radial roof . . . makes for quick, easy entry into hangar. Front corner space at each end of single or multiple unit is well daylighted for club or office quarters or for shop and parts storage.

IMMEDIATE DELIVERY NOW—class of the airfields — Butler Radial Hangars. Order now at new low prices.



COMPLETE PROTECTION FOR THE PRIVATE PLANE

Fire-safe, weather-tight, tamper-proof, Butler TRR Hangars easily erected, provide complete safe housing for small planes at low cost. They are structurally strong . . . aerodynamically shaped to decrease wind pressure and snow load. Non-swinging doors provide 41' 8" x 9' clearance. Immediate delivery.

BUTLER MANUFACTURING COMPANY

Factories: Kansas City, Galesburg, Minneapolis

For prompt handling address inquiries to:
7406 E. 13th St., Kansas City 3, Missouri, or
906 Sixth Ave. S. E., Minneapolis 14, Minn.

Send Full Information On:
RADIAL HANGARS Viz:

☐ Multiple Unit for . . . Planes.

☐ Single Unit.

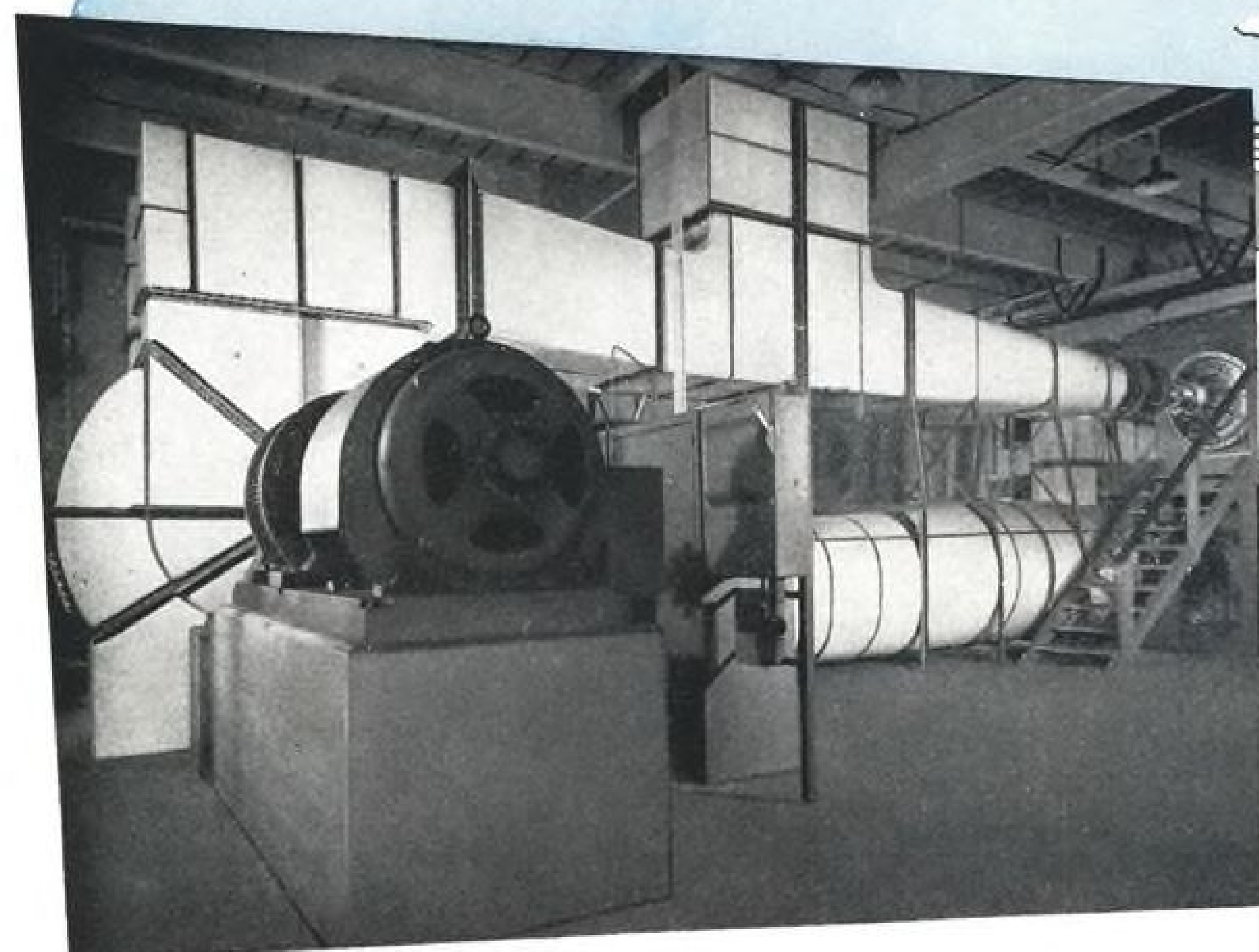
☐ TRR Hangars.

NAME _____

ADDRESS _____

CITY _____ STATE _____

Oil Cooler Efficiency Here...



Is
Accurately
Predicted
Here

View of Clifford's Wind Tunnel Laboratory showing the hot tunnel section which tests oil cooler performance at sea level conditions.

Ability of "Feather-Weight" All-Aluminum Oil Coolers to perform under any temperature or atmospheric conditions likely to be met in service can now be precisely predetermined.

In Clifford's wind tunnel laboratory... largest and most complete in the aeronautical heat exchanger industry... operating conditions from

sea level to 50,000 feet can be accurately predicted. This permits close fit of coolers to individual specification.

Inquiries concerning "Feather-Weight" Oil Coolers are invited. Clifford Manufacturing Company, 561 East First Street, Boston 27, Mass. Offices in Chicago, Detroit and Los Angeles.

CLIFFORD

Feather-Weight

ALL-ALUMINUM OIL COOLERS

HYDRAULICALLY-FORMED BELLOWS



New British Sprite Has Noise Mufflers

(McGraw-Hill World News)

London—A personal plane with a noise-level of a private car is the objective of Essex Aero Ltd., in developing the Sprite, their first complete airplane.

The company, which has previously made only aircraft sub-assemblies and light alloy structures such as fuel and oil tanks, has designed a two-seater side-by-side personal plane of monocoque, stressed-skin construction with all parts except the control surfaces of magnesium alloy with welded joints throughout.

The plane, first British design to use the butterfly tail introduced by Beech in the Bonanza, is also the first to be announced as using the new Nuffield aircraft engine, a 4-cylinder air-cooled 100-hp. unit. The noise-level is to be kept low by incorporating the engine mounting with the cowling, by using a patented silent reduction-gearing for the propeller drive, and by a special "tuned" silencing system introduced into the exhaust.

A two-bladed prop is to be fitted initially, but a multi-bladed one will be used later, when available, further to improve quietness.

The Sprite, which is expected to make its first flight in the fall, will be available in two versions, one with fixed tricycle undercarriage and one with retractable gear. Passenger safety features include a stout crash arch built into the Perspex cabin roof that gives exceptionally good visibility, and a seat harness, which permits unrestricted movement by the two passengers yet can be quickly locked when required.

Specifications follow:

Dimensions: Span, 30 ft.; Length, 24 ft. 7 in.; Height, 7 ft. 10 in.		
Weights:	With Fixed Landing Gear	With Retractable Gear
Tare wt.....	879 lb.	921 lb.
Disposable load.....	669 lb.	669 lb.
Maximum gross wt. (with 25 gal. fuel).....	1584 lb.	1590 lb.
Performance expected:		
Maximum speed.....	141.5 mph.	149 mph.
Cruising speed (@ 70 hp.)	121 mph.	128.5 mph.
Stalling speed (flaps down)	43 mph.	43.8 mph.
Initial rate of climb.....	760 ft. per min.	744 ft. per min.
Range, normal load (10 gal.) (1.5 hr.).....	290 miles	305 miles
Range, maximum load (25 gal.) (5.1 hr.).....	760 miles	790 miles

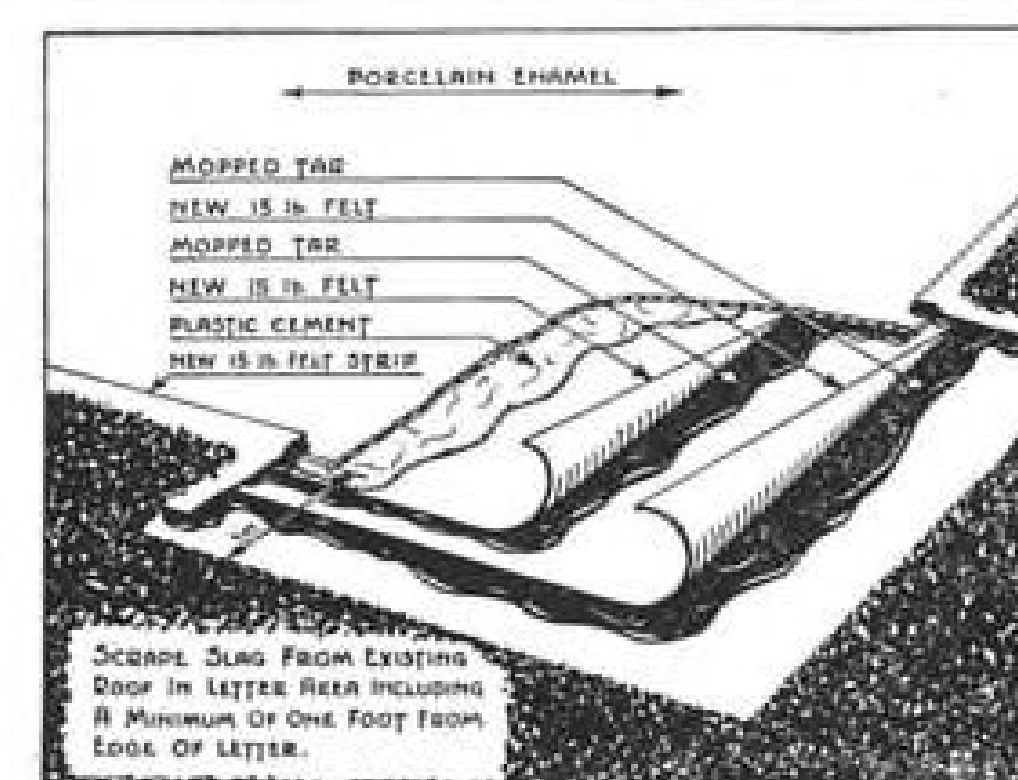
Reduce Drill Work

Possibilities of considerable savings in aircraft manufacturing tooling and production manhour costs through reductions in the number of drilled hole sizes are seen in a new table issued by the American Standards Association. Titled: "Limits and Fits for Engineering and Manufacturing," the new standard specifies a total of 46 preferred hole sizes covering the range up to four inches.

NEW AVIATION PRODUCTS

Porcelain Enamelled Airmarkers

Method for fastening highly reflective porcelain enamelled airmarkers to flat or curved roofs without puncturing roofing surface or requiring framework was achieved recently in airmarker installation at Wheaton, Ill. Favorably received by CAA, project was initiated by local CAP Squadron 611-12, and marking development was engineered by Porcelain Enamel Specialties Co., Baltimore, Md. Design consists of series of flat enamelled sheets of a standard shape which permits construction of any letter or numeral



desired. Glass-like porcelain-coating on steel base is resistant to any weathering, being impervious to moisture penetration. Moreover, finish gives high protection against abrasion. In installation, letter-bed is first prepared on roof by removing slag down to existing felt. Next, two new layers of 15-lb. felt are laid in, first layer being mopped down with pitch or asphalt, depending on type of roof. Finally, 1-in. coating of asbestos fiber asphalt plastic cement is troweled on top layer of new felt and letters are then laid in, with liberal coating of litharge of lead applied at panel edges and intersections.

Aircraft Windshield Cleaner

"C" windshield cleaner, now added to Whiz aviation chemicals line made and marketed by R. M. Hollingshead Corp., Camden, N. J., is described as an all-purpose product which may be used safely on any type of plastic or glass surface, resulting in bright, perfectly clear finish. Applied with soft flannel cloth, left to dry, then wiped off, cleaner is reported particularly effective in removing bug juice, oily films, and other kinds of dirt which accumulate on aircraft.

Airline Luggage Weigher

Especially constructed for weighing luggage, trunks, and other freight, a new dial-platform scale is ready for immediate delivery to air terminals, states the maker, Detecto Scales, Inc., 1 Main St., Brooklyn

1, N. Y. Scale comes in several weight capacities, ranging from 60 to 300 lb., and it is available with dial face reaching either 36 or 51 in. above floor. Platform is 10 1/2 by 14 1/2. Mechanism employs combination lever and spring principle.

Dual Fuel Pumps for Turbines

New safety advance is reported with development of dual tandem-type high pressure fuel pump for aircraft turbine power plants. Maker is Pesco Products Div., Borg-Warner Corp., 310 S. Michigan Ave., Chicago 4. Dual unit, affording standby pump should main engine pump fail, is installed on engine accessory drive gear box. Eliminated is weight (about 30 lb.) of electric motor and generator employed to operate standby pump on early-type jet craft. In new unit, two standard gear-type fuel pumps are combined with automatic change-over valves, all enclosed in a single housing.

Weight-Saving Seat Filler

Superfine PF Type A44 Fiberglass material is offered for filler in aircraft seat and seat-back cushions by Owens-Corning Fiberglass Corp., Toledo 1, Ohio. Termed low in cost, non-combustible, and resilient for excellent riding qualities, this lightweight filler is stated to save 2 lb. per seat in a typical aircraft installation. Treated with resin binder, fibers are shaped into batts of 0.5-lb. density, 1-in. thick. These, in turn, are formed into packs for insertion in seats according to procedure outlined by company.

New Aircraft Transceiver

"Aircrafter" is new transceiver aircraft radio equipment announced for full production this summer by Lear, Inc., 110 Ionia Ave., NW, Grand Rapids 2, Mich. Available for either 12 or 24v. operation, set has transmitter section which operates on six very high frequencies, with power of approximately 2w. on the antenna. Details: Will cover beacon and also standard broadcast band, with loop operation on both bands; will operate at either headphone or speaker level, with approximately 5w. output for speaker; and includes simultaneous range filter, instrument light, and dimming control. Weight of complete unit is less than 15 lb.

Compound Cuts Static Dust

Static set up on plastic airplane noses, domes, and windows by friction of airflow—a handicap, since it tends to attract dust and dirt and thus obscure these surfaces—is reported either eliminated or reduced by Merix Anti-Static Compound 79. Maker is Merix Chemical Co., Wrigley Bldg., Chicago 11. Applied by dipping, brushing, or spraying of plastic surface, non-flammable fluid dries to a thin film which cannot be determined by the naked eye. If desired, it may readily be washed off with water. Sample 32-oz. quantity of compound is available; standard size containers are 1 and 5 gal.

leading aircraft instruments - by the *instrument leader!*



Model 888

Weston Cross-Pointer Indicator (ID-48)

— used with Instrument Landing Systems

Weston Trim Indicators (O-1)

— used for visual indications with Automatic Pilots



Model 883



Weston Free Air Thermometers

— featuring the new flush mounting Resistance Bulb

FOR ADDITIONAL INFORMATION write Weston Electrical
Instrument Corporation, 616 Frelinghuysen Avenue,
Newark 5, New Jersey.

WESTON *Instruments*

ALBANY • ATLANTA • BOSTON • BUFFALO • CHARLOTTE • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DENVER • DETROIT • JACKSONVILLE • KNOXVILLE • LITTLE ROCK • LOS ANGELES • MERIDEN • MINNEAPOLIS • NEWARK
NEW ORLEANS • NEW YORK • PHILADELPHIA • PHOENIX • PITTSBURGH • ROCHESTER • SAN FRANCISCO • SEATTLE • ST. LOUIS • SYRACUSE • IN CANADA, NORTHERN ELECTRIC CO., LTD., POWERLITE DEVICES, LTD.

AVIATION SALES & SERVICE

New Wichita Firm Takes Culver Plane Sponsorship

Superior Aircraft now ready to provide replacement parts
for prewar and postwar orphans.

Orphan Culver planes, both prewar and postwar, now have a new parent, Superior Aircraft Co., organized by two former Culver officials, and located in part of Boeing Airplane Company's Plant 2 warehouse.

R. C. Faris, former assistant to the Culver president, in charge of purchasing, and William W. Taylor, former Culver chief test pilot, and Oklahoma dealer at the time the company went into bankruptcy, are co-partners in the new company.

It has purchased all rights to manufacture the postwar 85 hp. two-place Culver Model V, and is now ready to provide replacement parts for all Culver models.

Faris said component parts are now ready to build approximately 50 complete Culver Vs and there are many extra parts.

Superior also has all blueprints for every Culver model including the Model V and when the market warrants, Superior Aircraft hopes to resume production of an improved version of this plane.

Design efforts are being made to reduce gross weight of the Model V by 200 lb. Other changes would include installation of full span elevators, and changing the interconnected flap and stabilizer control for two settings, one for power on and the other for power off. Lightening of the plane would be accomplished partly by re-

moving equipment. Retraction of the tricycle gear would be accomplished manually, eliminating electric powered mechanism and starter would be removed. Fuel tanks would be moved from wings, and placed where present luggage compartment is located, forward of cockpit. Fuel capacity would be reduced from 32 to 20 gal. A new luggage compartment would be located aft of bulkhead, with outside entrance.

The new partners are hopeful that the proposed changes will cut approximately \$1,000 from the plane's production cost, but have set no price tag on a revised model. The last sale price of the Model V listed by Culver was \$4,200, but it was reported that the company was losing money on each plane sold.

Superior has about 20,000 sq. ft. of floor-space, including a small site on Wichita Municipal Airport in addition to the Boeing space. Faris said that his company had already received an offer for outright purchase of the business, but that the company hopes to continue independently. Financial support for the new company is being provided by a Wichita bank.

Superior, presumably, has no official connection with another new Wichita airplane company also started by former Culver personnel, Mooney Aircraft Co., headed by Al

W. Mooney, former Culver vice-president of engineering, which is making an experimental one-place Model M-18. Taylor, however, has done some testifying for Mooney in the prototype M-18.

Resuscitation of the Model V is the third revival of a lightplane accomplished in recent weeks. Others were the two-place Swift, nearest performance competitor to the Model V, which goes back into production at Texas Engineering & Manufacturing Corp., Grand Prairie, Dallas, Texas, and the four-place Navion, which soon will make another bow as the product of the Ryan Aeronautical Corp., San Diego.

Congressional Flyers Get Piper Super Cruiser

With presentation recently of a new three-place Piper super cruiser for the use of Congressional Flying Club members, air-minded members of Congress had two new lightplanes available for their use. They had previously been presented with a Luscombe Silhouette 85 hp. two-place plane. Both planes are being kept at Ashburn Flying Service, Hybla Valley Airport, Alexandria, Va.

John Hinson, Piper distributor for the Washington-Baltimore area, presented keys of the plane to Carl Hinshaw, (R., Calif.) president of the club at a ceremony at the airport. Other Congressmen attending the ceremony included Evan Howell (R., Ill.) vice-president, Henry Larcade, Jr. (D., La.), Claire Engle (D., Calif.), Henry Latham (R., N. Y.), Edward Jenison (R., Ill.). Approximately 34 members of Congress and approximately 81 Congressional secretaries are members of the club and about a third of these are flying students or pilots.



NEW HAWTHORNE JACKSONVILLE OPERATION

New operations building and pilot lounge of Hawthorne Flying Service at Craig Field, Jacksonville, Fla. municipal airport No. 2, recently completed, is first unit in construction program planned at airport. First hangar also is nearing completion. Modernistic structure features overhanging roof on three sides of building to shade spectators. Building contains operations office, show case of aeronautical supplies, lounge and wash rooms. Kenneth Brugh is manager of Jacksonville operation, latest addition to Hawthorne airport operations chain in southeastern states, headed by Beverly Howard, Charleston, National Aviation Trades Association president, and international acrobatic flying champion.

Need More Radio Service Facilities

Adequate service facilities in the field for the large number of personal plane radios now in use are "sadly lacking," James Riddle, president of National Aeronautical Corp., national distributor for Hallicrafters Aviation Radios, reported at the recent Aviation Distributors and Manufacturers Association summer meeting at Mackinac Island.

A survey in May indicated that 52 percent of all new personal planes delivered had been equipped at the factory with radios, Riddle said. Progressive radio manufacturers are currently engaged in establishment of many additional factory-approved service stations. Hallicrafters has an ultimate goal of having service stations located so that a customer will be able to get free warranty service within two hours flying range of any point in the country. Distributor members of ADMA were urged to accept their service responsibility in the radio merchandising chain and to establish good radio service facilities.

VHF ground receiving facilities are lagging far behind planned installation schedules, Riddle reported, and widespread use of both the 3105 kc. channel and VHF channels is predicted for at least two more years. More widespread use of GCA radar to aid private pilots is anticipated, with several cases already reported where the GCA has aided private flyers.

Riddle was re-appointed Chairman of the ADMA Aircraft Radio Committee and announced that the committee was petitioning CAA for a "better break for the private pilot," in range and control tower communications. The petition pointed out that the average power available for personal plane radio is 10 watts, feeding into a short antenna, and yet the pilot is transmitting in competition with all the higher powered transmitters and long antennas used by large

non-scheduled and cargo planes. Revision of present CAA techniques, if necessary, to give the private flyer better intercommunication is urged by ADMA.

Progress of postwar personal plane radios from the personal plane prewar equipment was cited. Prewar two-way sets weighed 18 to 20 lb. as against an average of 11 to 12 lb. postwar, and prices continue around the \$150 to \$200 prewar average, which actually represents an important reduction when the devaluation of the postwar dollar is considered.

Helicopter Models For Pilot Training

Electric-powered scale helicopter models for use in training helicopter pilots are being developed in Buffalo as a side-line project of two Bell Aircraft Corp. employees. John E. Duncan, chief of model research, and William H. Bayley, assistant to the commercial sales manager, were on the original staff of 15 which built the prototype of the present Bell Model 47B helicopter, and became interested in model possibilities as changes on the original helicopter were worked out through model use. Duncan has been building aircraft models for 18 years and holds several records for flying models.

About two years ago the two men formed the firm of Duncan & Bayley, Inc., and set up a research workshop on flying helicopter models in Buffalo. They completed their first successful electric powered model in February. It is equipped with a full sized set of remote controls, by means of which the student pilot can operate the flying model in tethered flight much as he would fly a full scale helicopter and learn from the model the helicopter reactions to various combinations of controls.

The electric powered model weighs 4½ lb. and has two 24-in. rotor blades made of balsa and hard lemon wood.

Taylorcraft Employees Entitled to Claims

Approximately 800 former employees of Taylorcraft Aviation Corp., at Alliance, Ohio, are entitled to prior claims on the bankrupt company's liquidated assets for regular pay, bonuses and severance pay earned during the three months before filing of a bankruptcy petition against the firm last August, according to a recent ruling by Federal Referee Carl Friebohn at Cleveland.

Involved is approximately \$75,000 in regular pay plus bonuses of \$5,500 and severance pay of approximately \$5,000. Only the bonus claims of union members will be allowed, the referee has ruled, because the bonus was stipulated in a contract between the union and the company.

The Taylorcraft name and some of the manufacturing equipment was sold in bankruptcy proceedings to a group of former Taylorcraft distributors and dealers headed by C. G. Taylor, founder of Taylorcraft, who had been disassociated from the corporation for several years prior to the bankruptcy proceedings.

1,000 Planes Are Expected At Farmers' Midwest Meet

Fred Weick, designer of the Ercoupe; William T. Piper, president of Piper Aircraft Corp., and Gov. Kim Sigler, of Michigan, a private flyer, will be principal speakers at the Aug. 4 and 5 meeting of Flying Farmers of midwestern states, at the University of Illinois airport, Champaign-Urbana, Ill. Farmers from Indiana, Michigan, Wisconsin, Iowa and Illinois are expected to fly in, with approximately 1,000 private planes in all, expected at the airport. Exhibits of new agricultural equipment and new personal planes will be shown and demonstrations will include crop dusting in a Bell helicopter by Arthur Curry, Galesburg airport operator, a Goodyear crosswind landing gear flight demonstration, a Goodyear blimp flight show, and a flight of P-80 jet fighters from Langley Field, Va.

New Bellanca Gear Optional Feature

An electrically actuated landing gear retraction mechanism is announced by Bellanca Aircraft Corp. as a new optional extra equipment feature on new Bellanca Cruisair Sr. four-place planes, at a price of \$306 installed at the New Castle, Del., plant. The electric mechanism also may be installed in any of the 1946 or 1947 Cruisairs already in the hands of customers and is available from the factory in kit form for field installation. The mechanism will replace, except for emergency use, the manually-operated retraction system which is standard on the Cruisair Sr., consisting of a crank which actuates a torque tube and a chain drive to "wind up" the wheels.

Beech, Bellanca Hike Four-place Prices

Four-place airplane prices spiraled upward, last week with announcements that the all-metal Beech Bonanza, and the Bellanca Cruisair Sr. were subject to increases effective July 14 and July 22, respectively.

Beech boosted the Bonanza tag to \$8,945, substantially a \$1,000 increase over the previous \$7,945 ticket, while Bellanca's Cruisair Sr. basic list price on Model A advanced from \$5950 to \$6350.

Effect of the increases will be watched closely by the personal aircraft industry, since virtually every manufacturer is torn between rising costs and apprehension as to the number of customers he will lose by a price hike.

► **New Trend**—A trend in industry merchandising away from any hope of soon attracting the personal aircraft mass markets so glibly discussed in the immediate postwar era appears reflected in the price hikes. A manufacturer with enough financial backing and engineering know-how to turn out a good four-placer for \$5,000 or less, in quantities sufficient to make some money at that price, might however bring about a sharp reversal in this new trend. Possibly three competitors now grooming new all-metal four-place planes, Luscombe, Cessna and Ercoupe, may take this chance when they put their new planes into the market.

Jack Gaty, Beech vice-president and general manager, says that his company found the \$7,975 price of the Bonanza inadequate because of the "very high degree of refinement of the airplane, its complete instrument and radio equipment, and our very careful testing program of all production airplanes," and also because of continuous improvements made on the airplane. New price for the Bonanza did not apply to orders on which the company held firm customer deposits as of July 14. However, this applies only to customers who had made the full \$1,800 firm order deposit, calling for specific price and delivery date, and not to customers who had made the preliminary \$500 returnable deposit for a priority certificate.

► **First Reports**—Industry reports that Beech was going to increase the Bonanza price to approximately \$9,000 were first heard last fall during the National Aircraft Show at Cleveland. At that time, a spokesman for the company advised that the company "had not increased" the price, but that there was no commitment which would prevent a future price increase.

H. L. Thompson, Bellanca secretary, in announcing the Cruisair Sr. price hike says that all Bellanca distributors have been given notice of the increase since July 2. The increase applies proportionately to the four other Bellanca models as well as to the basic Model A. It is understood that major part of the Bellanca increase will be used in hiking the distributor's percentage

from 20 percent to the 25 percent which is more nearly standard in the industry.

► **Other Competitors**—Among other major competitors in the four-place plane field is the Navion, currently being marketed by North American Aviation, and soon to return to production in the Ryan Aeronautical Co. plant at San Diego. Ryan has indicated no change is contemplated in the \$7,750 flyaway price of the Navion, which would give it a considerable price advantage in competition with the Bonanza.

Largest seller among the four-placers is the Stinson Voyager 165, with a standard model selling for \$5,847 and a Flying Station Wagon model with removable back seats for light cargo, which sells for \$100 more. The Voyager prices have been in effect for about six months and there is no immediate indication of a change. Two major factors in the Voyager's leadership in shipments of planes in recent months have been its price, the lowest in the four-place field, and the aggressive Stinson sales policy.

Only other landplane in the four-place class currently being marketed is the Fairchild F-24, for which new lower prices were announced in May, ranging from \$6,956 with "modernized" Warner 165 hp. engine to \$7,256 for an F-24 with a Ranger 175 hp. engine, while previous prices ranged from \$8,500 to \$8,875. Price gap still remaining between the closely competing Fairchild and Stinson is probably one explanation for the slow turnover of the F-24s.

Supplier Grows Rapidly

Standard Parts & Equipment Corp., Ft. Worth, recently took over distribution of the former Globe Aircraft War Assets surplus aircraft stock valued at more than \$5,000,000 in addition to the parts and equipment stock valued at more than \$2,000,000 already held by Standard.

Organized Jan. 1, 1947, the company has rapidly grown to a strong position in national aircraft supply. Organizers include Roy Browning, president; Guy Murray, assistant general manager; Allyn Berry, secretary-treasurer; Doyle Murray, Ben Dyess and Gene Murray. Standard now holds distributorships for many aviation manufacturers and also handles distribution for War Assets Administration on hardware and accessories. Sales volume of more than \$90,000 a month is reported for the company's first six months of operation. The company plans to add other commercial products to supplement its aircraft supply program and develop a balanced sales program.

Airport Short Course

A four-day short course for airport managers and owners will be conducted at the University of Southern California College of Aeronautics, at Hancock Field, Santa Maria, Calif. from Aug. 18 to 22. Dormitory reservations are being provided at the airport campus for registrants, and plane tie-down space will be provided at the field.



CUB HAVEN CAR RENTALS

Four diminutive Crosley autos, one of truck-type, are available for pilot rentals at Cub Haven Airport, Lock Haven, Pa., at \$2 for 6 hr. Cohick U-Driv Co. is providing cars in conjunction with Piper Aircraft. Minimum rental is 60¢ for first hr., plus 5¢ a mi. A \$3 flat rate for 12 hr. use is made, while 24 hr. use costs \$4 plus mileage charge. Larger standard-size cars rent at 7¢ a mi. Rates include insurance charges.



3000th VOYAGER DELIVERED

Col. Jack Lapham, center, operator of Flying L Dude Ranch for private flyers at Bandera, Texas, recently purchased 3,000th postwar Stinson, a Flying Station Wagon, delivered by William Klenke, Stinson general sales manager, left, and Les Bowman, Ft. Worth, Texas Stinson distributor.

HAPPIER LANDINGS IN CHICAGO

AT



ON

Chicago's New

PUBLIC AIRPORT

35 Minutes from The Loop

CHICAGO ORCHARD

(Douglas)

Includes:

- Four 6000-foot Concrete Runways
- CAA Control Tower (Orchard Tower 396 KC)
- The Best Runway Lighting—Approach Lights—
- Weather Facilities
- I. L. S. being installed

Skymotive Service

INCLUDES

—CAA APPROVED REPAIR STATION NO. 3712

—RADIO REPAIR
Bendix products
Aircraft Radio Corp. V. H. F.

—HELICOPTER Maintenance

—HANGAR SERVICE

—COMPLETE Line of SHELL products

—STATION WAGON SERVICE to and from Downtown

Phone—CHICAGO

NEWCASTLE 4311

A collect call or wire will alert us for any special needs.

SKYMOTIVE

DOUGLAS AIRPORT • NORTHWEST CHICAGO

Jack Hensbry, Gen. Mgr. • Phil Cochran, Pub. Rel.
Box 448, Wolf Road and Bryn Mawr Ave.

Park Ridge, Illinois

BRIEFING FOR DEALERS AND DISTRIBUTORS

ENGINE OVERHAUL CENTER PLANNED—Negotiations are being completed for establishment of a new engine overhaul firm for lightplane engines, operating under the name of Aircraft Maintenance Engineering Corp. and headed by William Claflin, previously associated with Pratt & Whitney, Wright Aeronautical and Wiggins Airways in engine service work. The base probably will be located at a central New Jersey airport and will provide service for plane owners and fixed base operations in the northeastern region. Claflin hopes to begin operations by Jan. 1, and expects to operate a trucking delivery service through the area he serves, with an engine exchange program including his own company's overhauls and factory rebuilt engines. AMEC will set up a line overhaul system using advanced production tooling which Claflin is designing, and he anticipates his company will be able to reduce engine overhaul costs approximately \$100 below present costs.

SKY RANCH DEVELOPMENT—Construction is now underway on a runway for a new sky ranch for flying vacationists at Hot Springs National Park, Ark. Vance W. Bryant, owner of the Jack Tar Court Hotel at Hot Springs, also plans to operate a GI flight training school at his new field. Main runway now is 3,000 ft. and eventually will be extended to 8,000 ft. so that it will accommodate any size plane. Two other runways will be 3,000 and 2,500 ft. A sky park hotel will adjoin the flying field, with recreational facilities including artificial lakes stocked with game fish, swimming, riding, and boating. A seaplane base will also be established on nearby Lake Hamilton, Bryant said. He envisions a large air tourist business will develop from surrounding cities such as New Orleans, Houston, Dallas, Ft. Worth, Oklahoma City, Tulsa, St. Louis, Memphis and Birmingham, all of which are from two and a half to three and a half air hours distant from his new project.

FLY-IN SHOPPING CENTER—Another new project which will add to the utility of the personal plane and eventually the helicopter is the Hampton Village Shopping Center which opened in St. Louis recently. Convenience of having an aircraft landing facility was scheduled to be demonstrated by a St. Louis housewife, Mrs. Harry C. Vollmar, who was to fly in a Bell helicopter from her own lawn to landing in the shopping center, do her shopping, and return home via helicopter. The helicopter landing area will soon be augmented by a landing strip for conventional personal planes, being built as an integral part of the 15 block development, which sells, the management reports, everything from apricots to zinnias.

RADIO TEST—Round-The-World flight of Evans and Truman in two Piper Super Cruisers, will prove probably the most gruelling service test that Bendix Flightweight radio equipment has yet had. Combined weight of radio communication and navigation equipment supplied by Bendix is 26.87 lb. It includes a range and broadcast receiver with crystal controlled spot tuners for reception of 6440 and 2870 kc. Also direction finding equipment, a medium frequency transmitter, and the new Bendix VHF transmitter, which will be used for air-ground communications with control towers and airway stations, and can be used for communication making possible use of CCA radar landing aids, and communicating with U. S. Army and Navy stations in all parts of the world. Standard airplane battery supplies power for all the equipment.

CATA RECOMMENDATION ACCEPTED—Three days after receiving an unanimous endorsement by 80 percent of the members of the California Aviation Trades Association replying to a CATA poll for the Debs Bill creating a California Aeronautics Commission, Gov. Earl Warren signed the bill. Bill provides for a five-man commission with a full time state aeronautics director to receive a \$12,000 annual salary. Bill permits commission to adopt temporary regulations but they expire unless they are enacted as legislation by the next session of the state legislature. This clause, an innovation in state aviation legislation, is expected to give aviation interests in California opportunity to combat effectively harmful regulations which could be passed by the commission, and nullify them through legislative action.

OHIO ZONING AFFECTS AIRPORTS—Nearly every airport built in Ohio from now on will probably be affected by an act recently passed by the General Assembly and signed by Gov. Thomas J. Herbert, authorizing county and township governing bodies to regulate the use of land in their respective territories. The law provides that 8 percent of the population of either county or township may petition for establishment of a zoning commission, or the board of county commissioners or board of township trustees may establish such a commission without such petition. The zoning will not directly affect municipalities within the county or township. However, in the event a municipality should wish to build an airport outside its limits, as frequently happens, presumably this would be subject to jurisdiction of the county zoning commission.

ALEXANDER McSURELY

AIR TRANSPORT

Airlines Vie for Increased Share Of Record Airmail Appropriation

Post Office requesting \$104,295,000 for payments to domestic and overseas carriers during fiscal 1948, up 66 percent over fiscal 1947.

By CHARLES ADAMS

A lean air transport industry, weakened by the deficit diet which accompanied low passenger load factors during the past six months, is looking hopefully toward the record \$104,295,000 airmail appropriation requested by the Post Office Department for fiscal 1948.

At first glance, the thumping 66 percent increase in mail funds in fiscal 1948 over fiscal 1947 appears to make ample provision for the substantial boosts in rates now being requested by almost all of the certificated carriers. But closer inspection shows that most of the additional money will be paid feederlines and overseas carriers for mail transportation on routes which were inactive during part or all of fiscal 1947.

Division Given—Breakdown of the \$104,295,000 asked for the fiscal year which began this month shows \$53,000,000 tagged for foreign and \$51,295,000 for domestic airmail transportation. The proposed fiscal 1948 foreign airmail appropriation is almost double the \$28,598,000 earmarked for fiscal 1947, and the domestic allotment for fiscal 1948 is \$17,295,000 above the \$34,000,000 appropriated during the past fiscal year.

Approximately two-fifths of the \$51,295,000 domestic airmail appropriation has been allocated tentatively for feederlines on the basis of a full feeder network of between 25,000 and 30,000 route miles. Recent developments have indicated that considerably less than 25,000 miles of feeder routes will actually be operating during most of fiscal 1948, thereby leaving the possibility that some of these funds can be used to meet the increased needs of the domestic trunklines.

Increases Asked—Of the 11 domestic trunkline carriers which operated on a non-subsidy mail pay basis of 45 or 60 cents a ton mile during calendar 1946, all but three now have applications for increased compensation pending before CAB.

Most recent petition for added mail pay has come from National Airlines, which has experienced a sharp drop in operating revenue during recent months as its load factor skidded from 69.72 percent in March to 45.68 percent in June. After showing an operating profit of about \$446,000 during the first four months of this year, NAL

suffered an operating loss of \$45,063 in May and has told CAB that considerably larger losses are indicated for June.

Wage Factor—The carrier admitted that part of its revenue decline represents a normal seasonal trend. But it foresaw steadily rising costs and pointed to pending wage negotiations with employe groups as reasons why its 60 cents a ton mile rate is insufficient.

Domestic airlines in the nonsubsidy group which have applications for mail pay increases pending include, besides National, United, TWA, Eastern, Braniff, Western, Chicago & Southern and Capital (PCA). Only American, Northwest and Delta had not filed for additional compensation by July 21.

CAB Acts—For all practical purposes, the 45-60 cents nonsubsidy level has been cracked by recent CAB action on the mail rate petitions of PCA, Western and C&S. In these cases, the Board authorized temporary mail pay increases up to seven fold but technically kept the basic 60-cent service rate.

Use of a "minimum capacity factor," which placed a floor under the airlines, mail load, permitted payment for volume in excess of that actually carried. Thus, PCA



PRIVATE TAXI

This 150-lb. Servi-Cycle which averages 100 mi. to a gallon of gasoline is standard equipment aboard Willis Air Service cargo planes. It has given WAS crews immediately available ground transportation around out-of-the-way fields in the U. S. and Latin America.

while still technically on a 60 cents a ton mile basis, is expected to receive upwards of \$4 a ton mile during calendar 1947. National has asked CAB for a minimum capacity factor for its system.

Feeder Rate—Meanwhile, the feeders are encouraged by CAB's final action this month on Pioneer Air Lines' mail rate. The nation's first feeder was given 53 cents a plane mile from Aug. 1, 1945, (when it

Mail and Passenger Statistical Comparison

Eleven Largest Domestic Carriers

(Seven years—1940 to 1946 inclusive)

Carrier	Total Mail Pay	Percent Mail Pay to Total Operating Revenue	Mail Revenue per Plane Mile	Mail Pay per Ton Mile (1946 only)	Passenger Revenue
United	\$44,466,000	20.52	\$2.055	\$0.45	\$155,803,000
American . .	32,252,000	12.39	.1241	.45	206,794,000
TWA	29,934,000	18.70	.1848	.45	117,974,000
Eastern . . .	15,638,000	10.98	.1040	.45	118,338,000
Northwest . .	11,044,000	19.12	.1845	.60	43,801,000
Braniff	5,587,000	14.54	.1271	.60	30,889,000
Western . . .	4,196,000	15.05	.1554	.60	21,773,000
Delta	4,039,000	14.22	.1323	.60	23,228,000
PCA	3,824,000	7.52	.0741	.60	44,363,000
C & S	3,657,000	15.75	.1476	.60	18,494,000
National . . .	2,233,000	11.56	.0927	.60	16,313,000

Totals . . . \$156,870,000

(Study prepared in part by PCA)

\$797,770,000

Martin Memo

Published by The Glenn L. Martin Company
Baltimore 3, Maryland



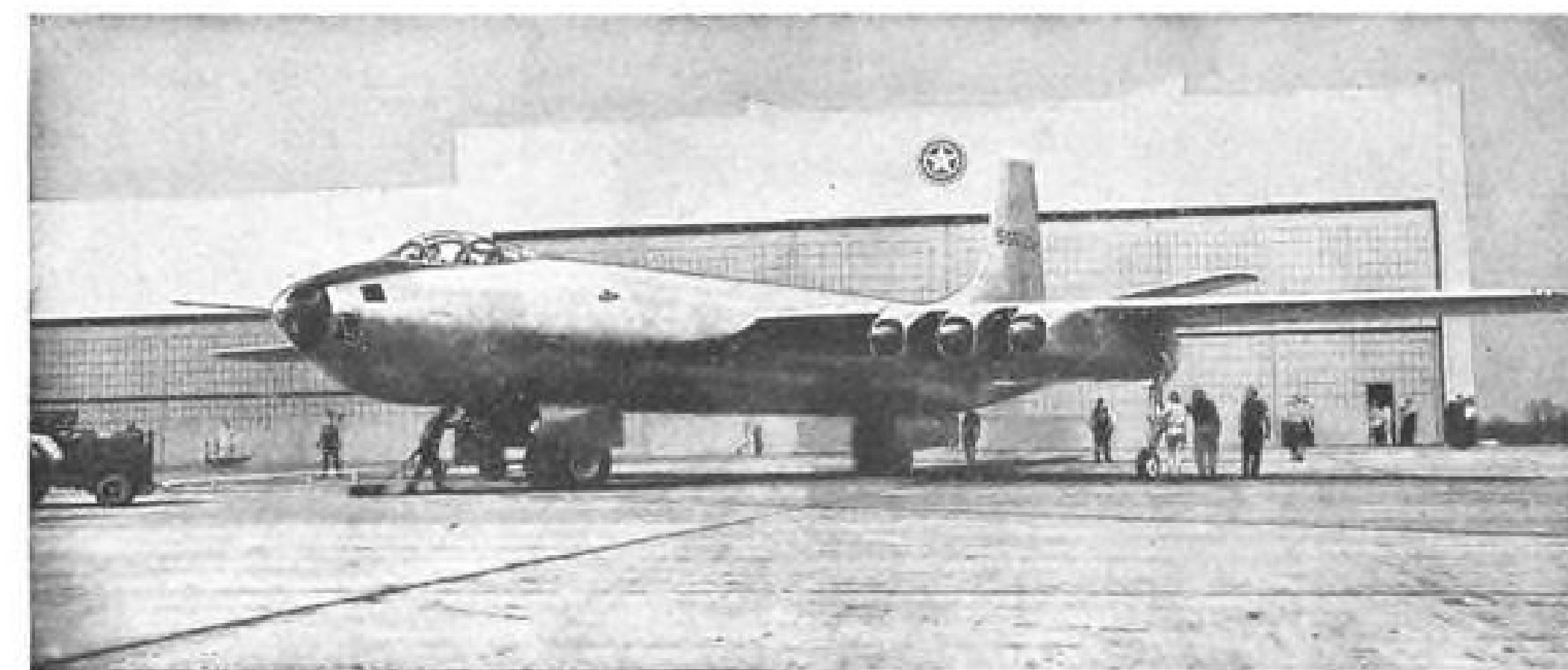
On Leading Airlines Soon . . . Here, the ultramodern Martin 2-0-2 airliner is shown in flight during CAA certification tests. Speedy Martin luxury liners will soon be a familiar sight at airports the world over when they go into operation for these great airlines and cargo carriers: Capital (PCA) . . . Eastern . . . Chicago & Southern . . . United . . . Northwest . . . Delta . . . Pan-agra . . . Cruzeiro do Sul (Brazil) . . . Aeroposta (Argentina) . . . Nacional (Chile) . . . Mutual . . . Flying Tiger . . . Air Borne Cargo . . . U. S. . . Willis.

Going Up . . . 235 Miles . . . Rocketry is one of the more advanced research projects of the Martin Company. Now under construction is the Neptune, first of ten experimental rockets, 45 feet long, capable of flights to 235 miles above the earth's surface. These huge rockets, being built by Martin for the Navy, are the first all-American long-range missiles of supersonic speeds.

As a Military Transport . . . The Martin 2-0-2 offers many advantages. It cruises 100 m.p.h. faster than pre-war twin-engine transports. It can carry 50 completely equipped troops or 15,000 pounds of cargo. Built-in features include new thermal anti-icing equipment . . . efficient van Zelm ailerons . . . tricycle landing gear . . . large cargo doors for easy loading and unloading.

25,000 Flying Hours . . . During static tests, the Martin 2-0-2 was subjected to wrenching and straining equivalent to 25,000 hours of flying or 10 years of average service. Results of these rigorous tests are further proof of the superiority of the Martin 2-0-2's advanced design and construction.

Increased Profits for Airlines . . . The new twin-engine Martin 2-0-2 carries 36 to 40 passengers (or 15,000 pounds of airfreight in the cargo version) at speeds 100 m.p.h. faster than the planes they supplant. But more important is the fact that this modern transport needs only 19 passengers (by ATA formula) to break even. Thus, airline profits with the Martin 2-0-2 can be as high as 50% of the total passenger payload. That's one of the big reasons 15 leading airlines have ordered Martin transports.



Newest Jet Bomber . . . The high-speed, long-range XB-48 was built by Martin for the Army Air Forces. Powered by six jet engines, it is the largest multi-jet conventional type plane yet constructed. The XB-48 also pioneers a new bicycle type landing gear developed by Martin for high-speed aircraft.

Looking for Cold Weather . . . To thoroughly test a new thermal anti-icing system, now standard equipment on all Martin transports, a Martin 2-0-2 was sent to Minnesota. Flying in the cold layers of air north of Minneapolis, the engineers and CAA representatives were able to choose varying types of icing conditions for their experiments. The system which involves passing heated air through the wing and tail assembly proved successful . . . the experiments were acclaimed by aviation experts as a big step forward in all-weather flying.

"A Real Buy" Here's Why . . . Martin has orders for more new transports than any other manufacturer. Through quantity production Martin is able to spread the cost of Martin transports over a larger number of planes, giving purchasers these great new airliners at low cost.



Low-Cost Maintenance . . . These are not windows in the Martin 2-0-2. They are a few of the numerous accessory compartment openings which provide easy access to the 2-0-2's electrical and hydraulic systems. These built-in timesavers mean low maintenance and servicing costs. The openings shown above are in the bottom of the fuselage.



AVIATION WEEK, July 28, 1947

Mail Pay Scale

Wide differences in mail pay received from the Post Office by large and small airlines have been largely obscured by the fact that the former are paid on a ton mile basis and the latter on a plane mile basis. Actually, some feeders operating newly-opened routes on which airmail traffic is just beginning to be developed are being paid 100 times as much as the larger trunklines for carrying one ton of mail one mile.

The "Big Four" trunklines, American, United, TWA and Eastern, receive 45 cents a ton mile. Braniff, Chicago & Southern, Delta, National, Northwest, PCA and Western were paid 60 cents a ton mile in 1946. Payments to subsidized carriers last year were: Colonial, equivalent of \$1.50 a ton mile; Continental, \$3.80; Mid-Continent, \$4.55; and Northeast, \$6.85. First quarter 1947 showed All American Aviation receiving \$20 a ton mile on its pickup route, and feeders being paid as follows: Empire, \$22; Florida, \$51; Monarch, \$35; Southwest, \$13, and West Coast, \$50.

started operations) to Aug. 31, 1946, and 60 cents a plane mile from Sept. 1, 1946, to May 31, 1947. These rates will enable Pioneer to show a 7 percent profit on its investment.

For the period after June 1, 1947, CAB has decided to adopt a "sliding scale incentive rate formula" for PAL which may become standard for all feeders. The formula provides maximum mail pay of 45 cents a plane mile when the carrier's passenger load factor is 35 percent or lower, and mail compensation automatically drops one-half cent a mile for each 1 percent increase in load factor.

Canada States Policy On Air Service Licenses

Canadian commercial air services, whether scheduled, nonscheduled or charter, must be operated primarily as a commercial air services and not as secondary activities of a company in some other business. This ruling was made recently by the Canadian Air Transport Board in rejecting applications by mining and fishery companies for licenses to operate commercial air services in conjunction with their main business.

CATB said public air service would suffer if other activity of the companies required preference. The board ruled that firms which wanted their own air operation under a separate name could apply for a contract service license, whereby the air service would be conducted for a group of companies owned by or related to one holding company. A number of such licenses have been issued by CATB to air services operating under contract.

Western Boosts Spring Earnings

Economies important factor in carrier's comeback after fight for survival last winter.

Western Air Lines, which last winter had its back to the wall in a fight for survival, has turned in a net profit for the second successive month as a result of its increased mail rate, higher passenger fares and traffic, and an aggressive cost reduction program.

T. C. Drinkwater, WAL president, reported consolidated net profit of \$143,582 in May, compared with a net loss of \$142,920 for the same month last year. The carrier first moved into the black during April, when it earned \$24,616 after suffering a first quarter consolidated net loss of \$680,868.

► **Revenues Rise**—Western's total revenues for May, 1947, were \$1,254,315, while operating expenses were \$1,110,732. During the same month last year, revenues aggregated \$917,575 and expenses \$1,060,495. Revenue passenger mileage in May was up 10 percent over April and 20 percent above May, 1946.

While recovery of passenger revenues after the winter slump and increased mail pay have been important factors in Western's comeback, the company's current optimism would not have become possible without the cost-cutting program. Here's what Western has done lately to nurse its pennies:

- **A 28 Percent Cut in Personnel** has been effected since Jan. 1, with staff reductions widespread through traffic, advertising, publicity, treasury, stores and purchasing, and passenger service departments. Staff-trimming may be expected to continue, but at a much slower rate.

- **One Standby DC-4** has been sold to Australian National Airways.

- **Maintenance Spare Parts** bought in anticipation of purchasing 20 Convair 240 transports have been sold heavily following WAL's cutback of the Convair order to 10 units.

- **Ticket and Administration Offices** have been consolidated into single quarters in cities where more than one office previously had been maintained.

For the future, Western has programmed additional economies that will be immediate revenue producers, and at least one proposal will gain the attention of all domestic air carriers.

► **Pact With American**—While final negotiations have not been completed, it is likely that WAL soon will announce an agreement with American Airlines for consolidation of ticket office and ground handling facilities.

Although new airlines have, in their early development, shared facilities of already established carriers, the tendency until now

has been for completely autonomous passenger services and airport ground crews. ► **New Trend Seen**—Western and AA will establish a new trend when, in west coast cities served by both, they share the costs of perimeter ticket offices, airport passenger facilities, and airplane handling. In most instances the work will be handled by Western personnel, and American will be billed for its share of costs. In ticket offices of joint occupancy, personnel of the two airlines will remove identifying uniform insignia to establish the effect of neutrality of service.

Particular interest will attend the consolidation of airplane ground handling in view of the transport industry's extended debate over ground handling costs. Time wasted by ground crews, who frequently cannot be shifted to other productive work between airplane arrivals and departures, has been extensive. Consolidated ground handling plans often have been proposed and as regularly rejected by carriers who have insisted upon preserving the identity of their operations both in ramp equipment and ramp personnel.

► **Ramp Usage**—Under the Western-American mutual aid plan, ramp equipment will be shared, and a single ground force will handle the turn-around work on planes of each carrier.

Because of the formative stage of the plan, until now, neither carrier desired to discuss it. As a result, the preliminary groundwork gave rise to a strong rumor on the west coast that American was seeking outright purchase of financially-distressed WAL's coast routes from Los Angeles to San Francisco and on north to Seattle. WAL spokesmen now deny emphatically that the rumor ever had merit.

However, Western would like to sell its Inland Air Lines operations, and after CAB hands down a decision on the application of United Air Lines to purchase Route 68, Los Angeles-Denver, bids for Inland probably will be considered.

NWA Joins Other Lines In Filing Cargo Tariff

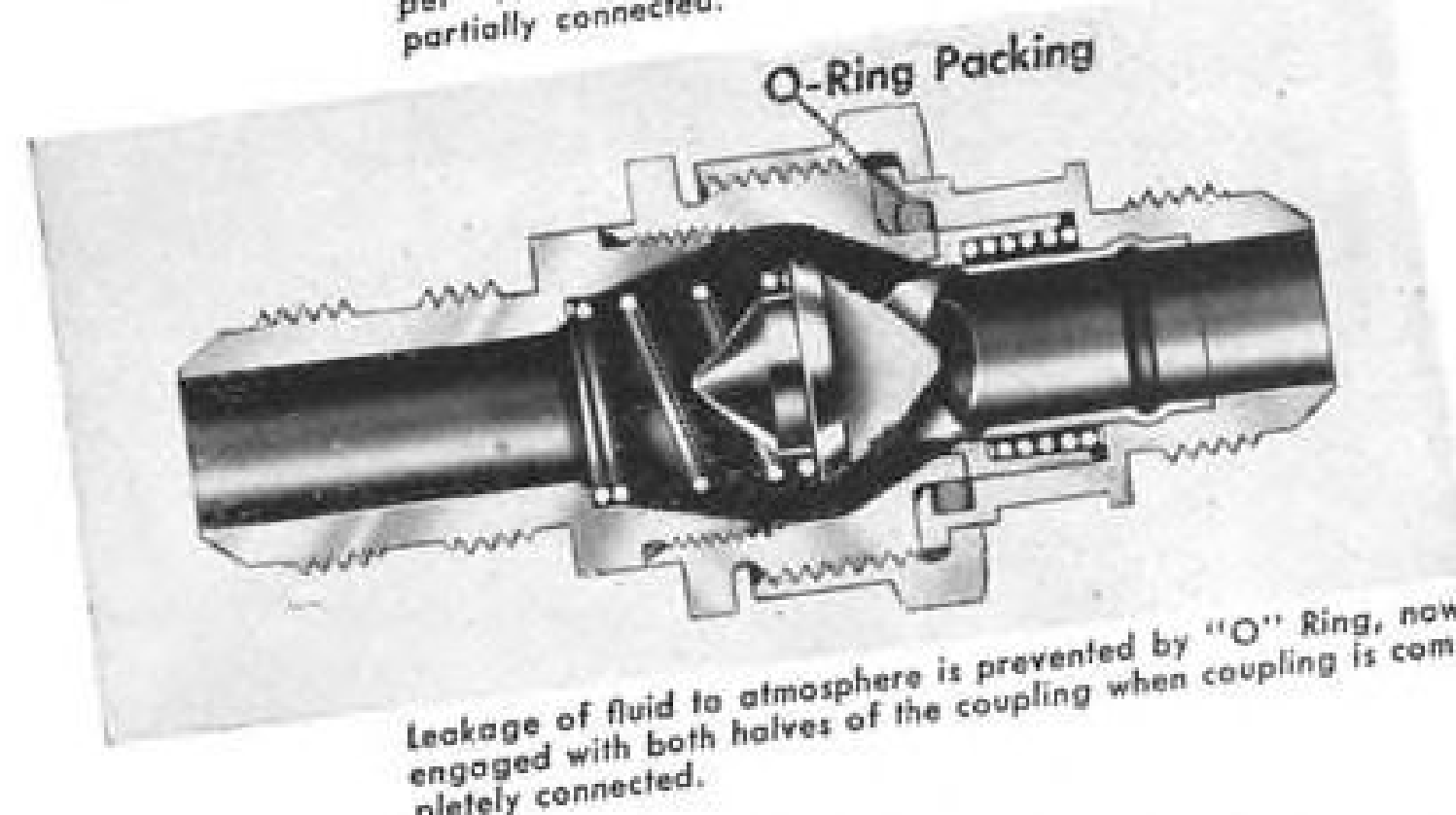
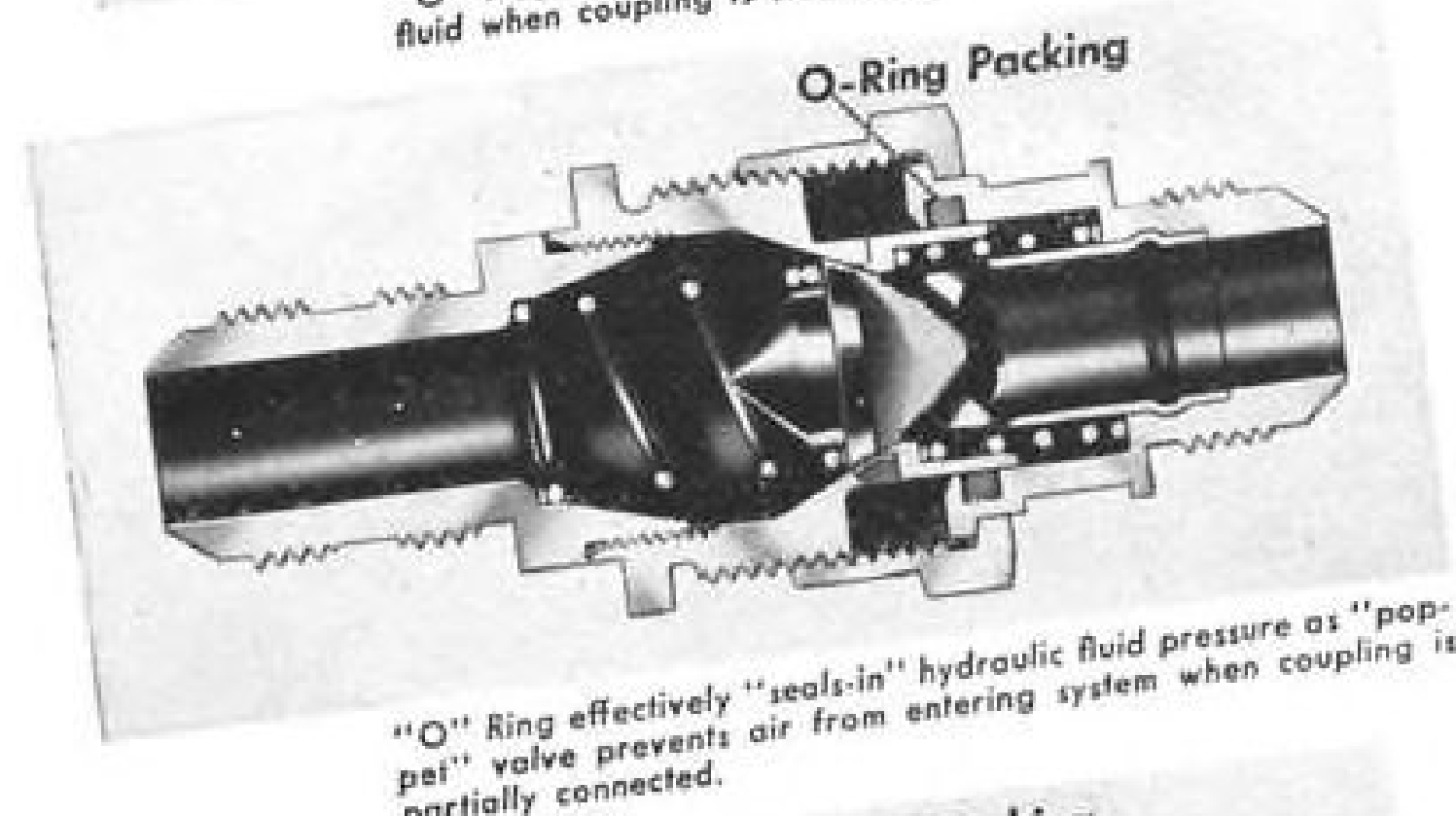
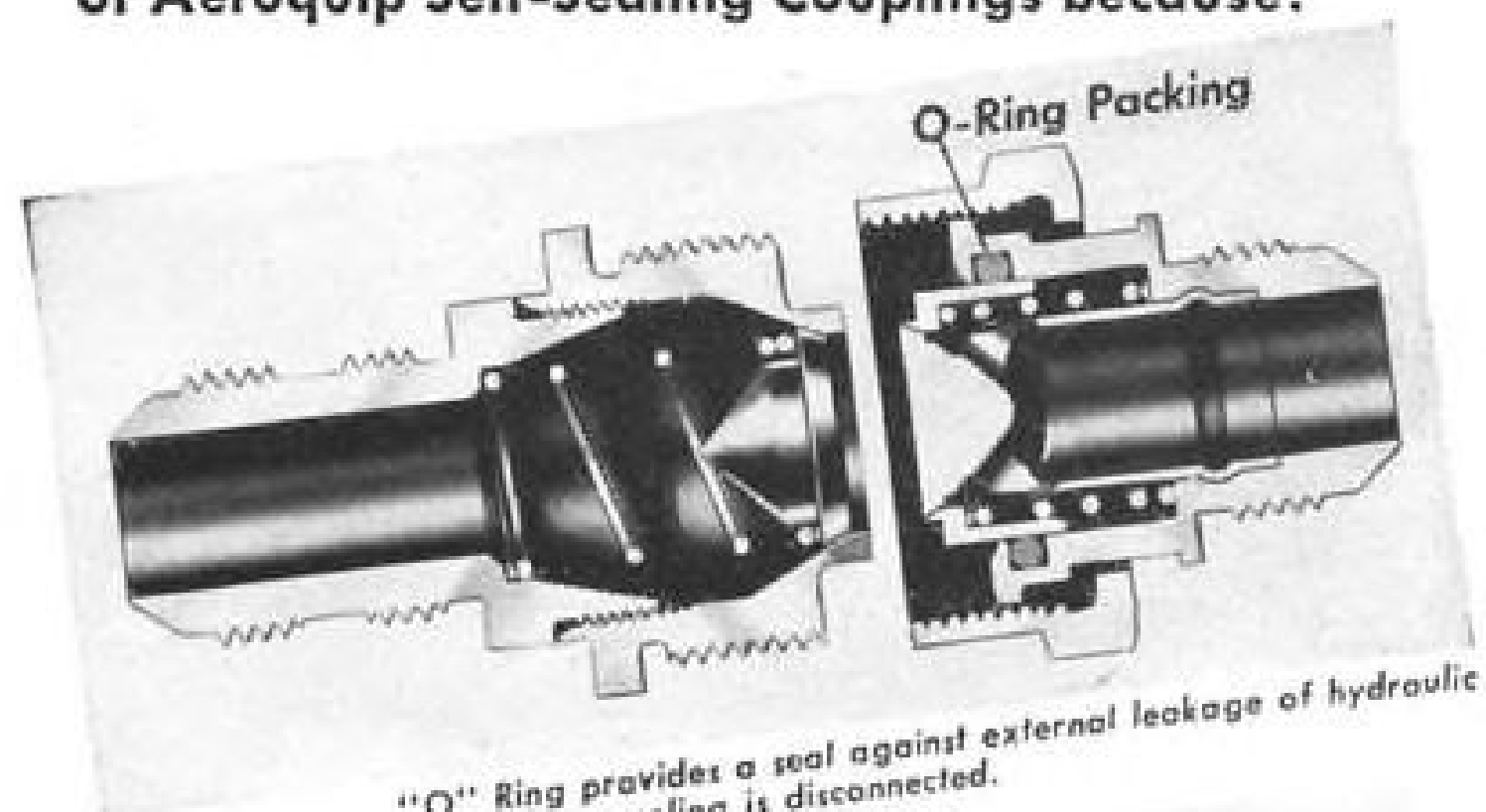
Railway Express Agency's attempt to enter the airfreight field through Northwest Airlines under the agreement signed in April, 1946, apparently has failed. On top of recommendations by CAB public counsel and a board examiner that the arrangement be disapproved, Northwest belatedly joined 18 other certificated carriers which have filed their official joint rate tariff through Air Cargo, Inc.

Airlines participating in the industry tariff besides Northwest are American, Braniff, Chicago & Southern, Colonial, Continental, Delta, Eastern, Inland, Mid-Continent, Monarch, National, Northeast, PCA, Pioneer, Southwest, TWA, United and Western. The 25 percent reduction in freight rates reflected in the tariff will be effective Aug. 1 if CAB approves.

LINEAR "O" RINGS

Effectively Seal
IN 3 WAYS . . .

Linear "O" Rings are incorporated in the design of Aeroquip Self-Sealing Couplings because:



Linear "O" Rings eliminate complicated, bulky assemblies. One "O" Ring effectively seals in either direction; requires no adjustment or mechanical pressure to maintain an effective seal; provides savings in manufacturing and assembly costs through design simplification; and can be installed by inexperienced hands.

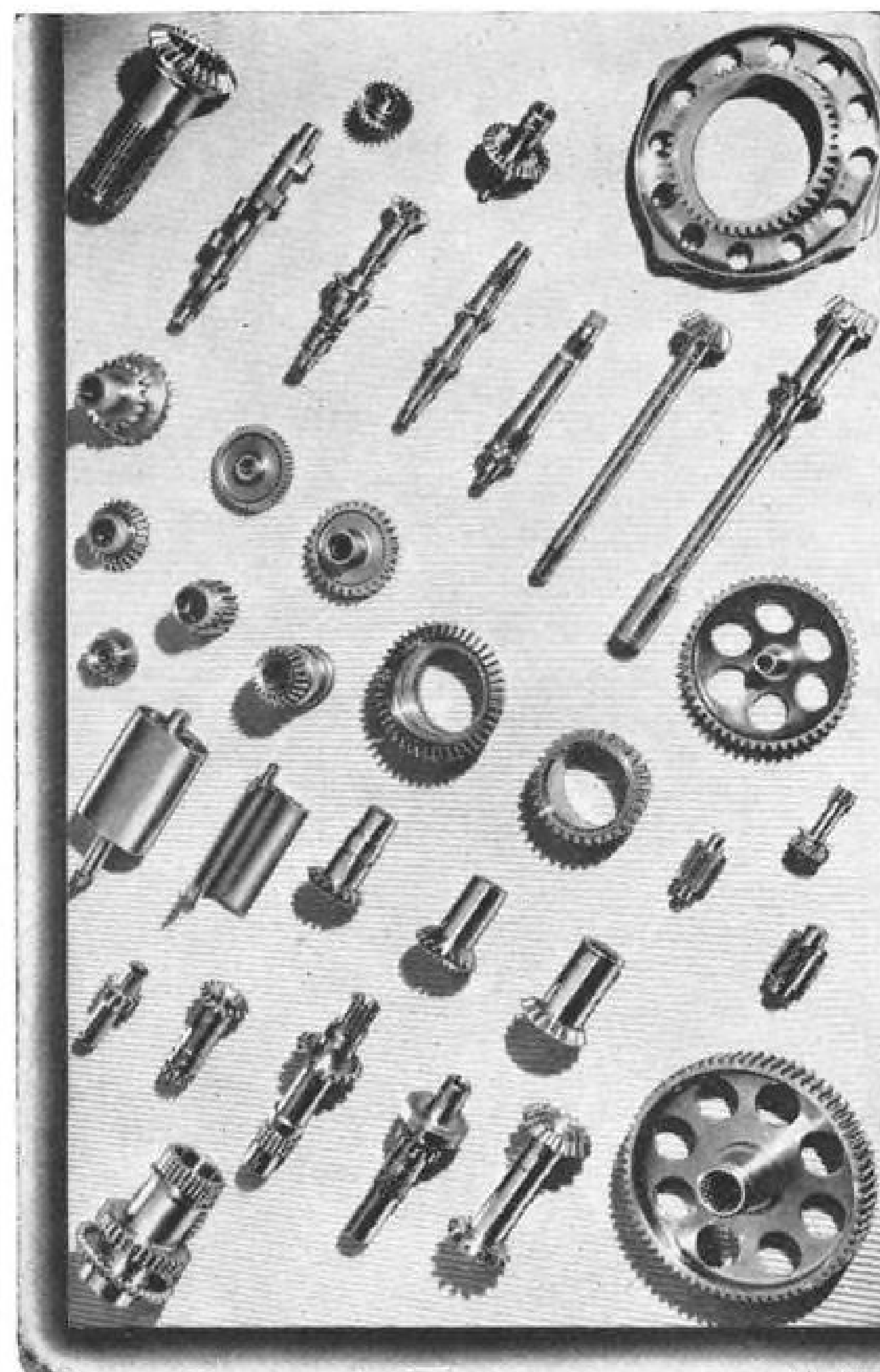
These moulded synthetic rubber seals are available in high-quality general-purpose rubber compounds adaptable to a wide range of temperatures, pressures, and fluids, or in a number of special compounds to meet unusual service conditions. Standard sizes range from 1/8" to 1 1/2" I.D. and special sizes can be made as required. Write for detailed information.

Covered by Christensen U. S. Patent No. 2,180,795; all "O" Rings sold by Linear are manufactured under royalty agreement with patentee.

**LINEAR
INCORPORATED**

Executive Offices and Factory

STATE ROAD and LEVICK STREET—PHILADELPHIA 35, PENNA.



PROOF . . .

of our ability to produce the finest in precision gears lies in these samples of work done.

If your product demands gears that are precision-built for the highest degree of efficient performance, why not turn your problem over to IGW . . . pastmasters in precision gears since 1902!



Investigator Reports On UAL Accident

The pilot of the United Air Lines DC-4 which crashed off the end of a LaGuardia Field runway during takeoff on May 29 has been accused of "faulty judgment" in making three separate decisions prior to the accident.

In an interim report submitted to the Senate Commerce Subcommittee on Aviation by its special investigator, Carl Dolan, the pilot's questionable decisions were listed as: 1. his weather analysis in estimating the speed of an approaching storm and in considering the varying gusts of wind which precede a storm; 2. his choice of runway; 3. his attempt to stop after traversing two-thirds of the runway. Dolan said that had the pilot reversed his decision (as was his prerogative) in any one of the three instances, the accident probably would have been avoided.

► **First Report**—The LaGuardia Field accident report is the first to be submitted to the Senate Subcommittee by its investigator, who was appointed early last month following the United and Eastern mishaps during the Memorial Day weekend. Acting independently of CAB's Safety Bureau, Dolan will also make reports directly to the Subcommittee on the Capital Airlines (PCA) DC-4 crash at Leesburg, Va., and the accident involving a chartered Burke Air Transport DC-3 in Florida two weeks ago.

Dolan said that with the UAL plane traveling at over 90 mph, when two-thirds of the way down the LaGuardia runway it could not possibly have been stopped on the remainder of the strip. "Inasmuch as the pilot had 400 additional horsepower, and his flap setting was only 15 degrees, he could have increased the flap angle, opened his throttles wide and taken off," the report declared. It pointed out that the braking effect of a plane which has practically reached its takeoff speed—with most of the weight of the craft on the wings rather than on the wheels—would naturally be ineffectual.

► **Little Margin of Safety**—"Choice of the short runway 18 with reference to his company's load specifications, gave the pilot very little margin of safety, the formula indicating that with a 60,000 lb. load he required 19 mph. headwinds. At takeoff time, the varying and shifting winds preceding the storm were blowing directly up the runway at 20 mph. With a change in wind direction, the component of the wind factor up the runway dropped to 15 mph., and under this condition the plane was overloaded during the takeoff attempt."

In recommending action to prevent similar mishaps, Dolan told the Senate Subcommittee that licensed dispatchers should be in entire control on the ground. "This would require a higher calibre of dispatcher than is now used," the investigator said.

► **Standardization Sought**—"Load chart specifications, which vary with the airline, should be standardized and uniform for a given type of plane, with CAA approving and spotchecking them. At present, one operator uses a graph, one a table, others charts. Still others take into consideration variables which some carriers do not—all of which tends toward different conclusions. Authority of traffic control towers to make final decisions on runways, weather, or other matters as the interests of safety dictate should be expanded," Dolan concluded.

► **EAL Hearing**—Meanwhile, the second phase of the CAB hearing on the Eastern Air Lines accident at Bainbridge, Md., May 30, has been completed in New York. In answer to testimony that pilots had made 18 reports of excessive vibration on the wrecked DC-4 between Mar. 24 and Apr. 22, Eastern asked and received permission to make a complete report on the plane's history during the period to show that corrective action had been taken. The vibration was in the nosewheel, and while newspapers headlined the development, CAB investigators said the difficulty was rather common, not particularly dangerous, and probably had no bearing on the accident.

New Reservations Plan Instituted by Braniff

Braniff Airways has given Mid-Continent Airlines and Continental Air Lines full authority to make and immediately confirm seat reservations on any flight between the 30 cities on Braniff's domestic system.

In the past, confirmation for interline or connecting space on another carrier had to be requested by wire from that company's home office, and frequently the message had to be relayed to the city controlling the desired space.

EAL, American Fight Increased Competition

American Airlines and Eastern Air Lines have leveled their biggest guns against would-be competitors on the heavily-traveled New York-Washington route, giving special attention to Atlantic Airlines' proposed 3 1/2 cents a mile "day coach" service.

Further dilution of New York-Washington traffic would go far toward creating a 6 cents a mile airline rather than a 3 1/2 cents a mile carrier, American told CAB in oral argument on the Middle Atlantic area case. Eastern pointed out that Atlantic's 28-passenger DC-3s would be competing with Constellations, DC-6s, Martin 2-0-2s and Convair 240s. Both American and Eastern doubted Atlantic's tourist-class operation (no hostesses, no free meals, etc.) could come close to achieving the economies which President S. J. Solomon predicted for it.

Nine existing carriers—All American, Braniff, Chicago & Southern, National, Northeast, PCA, TWA, United and Colonial—have applied for New York-Washington service in the Middle Atlantic area case. Colonial and Atlantic were recommended to fly the route by the CAB examiners, and Delta Air Lines has been favored by examiners for the same link.

Aerial Advertising

General Petroleum Corp. has become the first San Francisco area user of advertising carried by the war-surplus blimps and dirigibles of Douglas Leigh Co., New York. The Mobiloil "Flying Red Horse" is featured in flashing lights on the side of the lighter-than-air craft cruising over West Coast cities. Douglas Leigh also has lighted airships operating from Lakehurst, N. J., to cover the New York area.



BRANIFF CARRIES CESSNA TO PANAMA

Part of 10,000 lb. of cargo carried from Dallas to the Panama Canal Zone on a recent survey flight by Braniff Airways was this single engine Cessna 140 from Wichita, Kans. The crated plane, weighing 1,726 lb., was assembled in Balboa.

CAB Denies Brayton Grandfather Certificate

Brayton Flying Service, St. Louis, which last fall asked CAB for a grandfather certificate nearly eight years after the time limit for such applications supposedly had expired (AVIATION NEWS, Sept. 16), has lost its case before the Board.

The grandfather clause of the Civil Aeronautics Act directs issuance of certificates to air carriers applying within 120 days after the Act was signed. The Act was approved June 23, 1938, but three days before expiration of the 120 days the Board issued an order exempting nonscheduled carriers from economic regulation. Brayton contended the exemption relieved it of the requirement to apply for its nonscheduled grandfather certificate within 120 days of June 23, 1938.

In dismissing the application, CAB said the nonscheduled exemption did not extend the time within which requests for grandfather certificates might be filed. Brayton, was conducting nonscheduled common carrier services prior to the effective date of the Act and has operated continuously since then.

REA Ships Via TACA

Railway Express Agency has inaugurated air express service from the U. S. to more than 70 Latin American cities served by TACA Airways System in Cuba, Central America and the Canal Zone. Under the new joint handling procedure, shipments originating in the U. S. and consigned to points served by TACA will be routed to New Orleans or Miami for transfer.

Planes Vs. Ships

"Uncertainties of the rapidly increasing competition of air travel" are among reasons given by Matson Navigation Company for halting the conversion of its pre-war luxury liners Mariposa and Monterey.

This is the steamship company's first positive indication that the intrusion of air commerce between California and Honolulu is being felt by surface carriers. The stop-work order halted Matson's \$6,000,000 program for restoration of the liners to passenger service following their wartime use as military transports.

At the same time, Pan American Airways Pacific-Alaska division announced that during June its total California-Honolulu air traffic amounted to 4,748 passengers, 86,876 lbs. of mail, and 81,149 lbs. of freight. United Air Lines, which started Honolulu service in May, carried 2030 passengers during its first month of operation.

SHORTLINES

► **American**—Board of directors has declared a regular quarterly dividend of 87½ cents a share on the corporation's \$3.50 cumulative convertible preferred stock payable Sept. 1. . . . Airfreight shipments at Washington, D.C., reached a new high for the year in June, with 17,366 lb. outbound and 72,454 lb. inbound.

► **American Overseas**—Carried 21,411 passengers and 1,110,207 lb. of cargo across the Atlantic during the first half of 1947, more than double the passenger and cargo volume for the same 1946 period. AOA made 924 trans-Atlantic flights during the six months, flying an average of 118 passengers a day.

► **BOAC**—Reports a 94 percent load factor on its eastbound trans-Atlantic run during June, when it carried 989 passengers to Europe against 651 in May. Company's passenger traffic out of New York during the second quarter of this year increased 276 percent over the January-March period.

► **Capital**—Airfreight shipments reached a new peak of 998,514 lb. in June, up 41,751 lb. over the previous high mark in April and 345,494 lb. over May. Of carrier's 55 cities, Detroit originated the most airfreight—189,683 lb.—followed by New York/Newark and Chicago. Top three PCA cities in airmail production were Pittsburgh, Chicago and Washington, in that order, while New York/Newark led in system air express, followed by Detroit and Chicago.

► **Eastern**—Was slated to place a 60-passenger Constellation on its Chicago-Miami route last week. Plane will provide 2 hr. 15 min. nonstop daily schedules between Chicago and Atlanta and less than 5 hr. one stop trips between Chicago and Miami via Atlanta. An EAL Connie on July 16 set two new speed records by flying nonstop from Chicago to Miami in 3 hr. 45 min. and returning in 3 hr. 56 min.

► **Mid-Continent**—Will inaugurate daily flights to Paris, Tex., Aug. 1.

► **National**—Revises schedules Aug. 1 to permit transcontinental service between Miami and Los Angeles in 13 hr. 25 min. elapsed time. Passengers will connect with Delta at New Orleans and American at Dallas. . . . Carrier is teaming with Pan American Airways and Panagra in offering New York-Buenos Aires DC-6 service in 24 hr. 40 min. elapsed time. National connects with Panagra at Miami, and additional stops are made at Balboa, C.Z., Lima, Peru, and Santiago, Chile.

► **Northwest**—Was hampered by Government red tape on its first flights to the Orient this month. Because of "procedural delays in Washington," the carrier lacked official permission to carry revenue traffic to and from occupied Japan, with the result that passengers faced the prospect of spending all their time in Japan at the airport.

► **Peruvian International**—Has joined with Chicago & Southern Air Lines to map a sales program to increase air travel between the American middle west and South America's west coast. The new campaign is a further development of the interline sales agreement reached earlier between the two carriers.

► **Pioneer**—Inaugurates airfreight service Aug. 1.

► **Sabena**—Has flown the first DC-6 to Europe. Carrier will take the plane on a four-week, 24,000-mile tour of its European and African routes. Later, the DC-6 will be placed in service by Sabena between New York and Brussels.

► **Southwest**—Will accept airfreight shipments for the first time on Aug. 1.

► **United**—Plans to open its new cutoff service between Boise, Ida., and Reno, Nev., Aug. 1.

Viking Changes Name

Viking Air Transport Corp., uncertificated operator based at Lockheed Air Terminal, Burbank, Cal., has changed its name to Aero-Van Express Corp.

CAB ACTION

The Civil Aeronautics Board:

- Granted Pan American Airways temporary exemption authorizing non-stop service between Wake Island and Tokyo, Japan, and between Shanghai and certificated points (other than Manila) south of Hong Kong.
- Dismissed United Air Lines' request for suspension and investigation of Southwest Airways' local passenger tariffs establishing roundtrip excursion fares between Eureka, Redding and Yreka, Cal., and Medford, Ore., and establishing circle-trip short-limit fares between Medford and San Francisco and other points. (Docket 3018).
- Dismissed for want of prosecution route certificate applications of Airborne Transport (Docket 1088), Zenith Airlines Co. (Docket 1540), Edgar T. Werthen (Docket 1672), Ernest Long (Docket 1827), James Walker Case (Docket 2158) and Golden State Airlines (Docket 2159). Applications requested service in California area.
- Consolidated applications of Transairways, Inc., Julius E. Nervo, Pacific Air Lines, Pacific Air Transport, Bonanza Air Lines, Southwest Airways Co., Arizona Airways, TWA and United Air Lines in California-Nevada service case (Docket 2019 et al.).
- Dismissed route application of Nevada Airways, Inc., (Docket 2892) at applicant's request.

CAB SCHEDULE

- Aug. 4. Hearing on Pan American Airways application for service to Melbourne, Australia. (Docket 2881).
- Aug. 4. Oral argument in Boston-New York-Atlanta-New Orleans route case. (Docket 720 et al.).
- Aug. 18. Hearing in Chicago-Helicopter service case. Extended from July 28. (Docket 2384 et al.).
- Sept. 2. Hearing in Latin American Certificate Amendment cases of Panagra and Braniff. (Dockets 2527 and 2622.)
- Sept. 8. Hearing on Mid-Continent's proposed service between Minot, N. D., and Regina, Saskatchewan. (Docket 628.)
- Sept. 8. Hearing in case involving additional service in California-Nevada area. Postponed from Aug. 25. (Docket 2109 et al.).
- Sept. 29. Hearing on Mid-Continent's application for alternate Kansas City-New Orleans route. (Docket 1956.)
- Oct. 7. Hearing involving additional Florida Area Service. Postponed from Aug. 12. (Docket 1663 et al.).
- Nov. 15. Hearing on Board's Investigation of Consolidated Airfreight Tariff Agreement. Docket 2719.

SEARCHLIGHT SECTION

EMPLOYMENT • BUSINESS • OPPORTUNITIES • PLANES • EQUIPMENT—USED or RESALE

UNDISPLAYED RATE

60¢ a line, minimum 4 lines. To figure advance payment count 6 average words as a line.

POSITIONS WANTED (full or part-time individual salaried employment only), ½ above rates.

PROPOSALS 75¢ a line an insertion.

INFORMATION

BOX NUMBERS in care of any of our New York, Chicago or San Francisco offices count 10 words additional in undisplayed ads.

DISCOUNT of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

DISPLAYED RATE:

The advertising rate is \$9.00 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

AN ADVERTISING INCH is measured ¾ inch vertically on one column, 3 columns—30 inches—to a page.

AIRCRAFT TOOL DESIGNERS TOP FLIGHT ONLY

5 Years Aircraft Experience Machine and Assembly Tools

LARGE TOOLING PROGRAM FOR NAVY'S NEW BANSHEE

McDONNELL AIRCRAFT CORPORATION

Box 516, St. Louis 21 Missouri

POSITIONS VACANT

WANTED—A first class chief designer for Hindustan Aircraft Ltd., Bangalore, South India. Applicants should be qualified aeronautical engineers having at least 15 years practical experience of design and have project and stress office experience and have held responsible senior positions in the design department of well-established aircraft companies. Applicants should state clearly in chronological order the positions they have held, the work for which they have been responsible and the salaries they have earned and should state the salary they would be prepared to accept, on the basis of a five years contract in the first instance, subject to six months notice on either side. Passages would be paid to and from the home country and leave would be at the rate of 1/11th of the time spent on duty. All other conditions of the contract would be according to the company's standard terms given to their employees of non Asiatic domicile. The Hindustan Aircraft factory is situated in Bangalore in His Highness the Maharajah of Mysore's State. Bangalore has an equable climate, being at an elevation of about 3,000 ft. above sea level, the maximum temperature in the two hottest months not rising above 92°F and at other times of the year not falling below 60°F. The factory shops cover a total area of about one million sq. ft. and the company is engaged in aircraft construction, repair and maintenance work. It is a limited liability company the shares being owned by the Government of India and the Mysore State and it forms the nucleus of the aircraft industry in India. Applications should be sent immediately by air mail and in any case not later than the end of August marked "Appointment of Chief Designer" to the address of the General Manager, Hindustan Aircraft Ltd., Bangalore, South India.

LICENSED A & E mechanic thoroughly familiar and experienced in radio, electrical system and maintenance of single-engine Beech, model D17S, P-W 450 engine. Prefer man with automotive interest and background. Give full details of experience and names of previous employers indicating Beech owners. Stewart Motor Inc., 3209 E. Washington, Indianapolis, Ind.

aerodynamicists and dynamic analysts

CHANCE VOUGHT AIRCRAFT
STRATFORD, CONN.

Experienced Aerodynamicists and Dynamic Analysts are needed for highly analytical work on advanced designs of high-speed aircraft. There is important developmental work to be done in performance, stability and control analysis. Equally important is the analysis of flutter, vibrations, and dynamic landing loads.

CHANCE VOUGHT AIRCRAFT, leader in the field of aircraft development, offers these vitally important positions to qualified engineers.

WRITE NOW! Give full particulars as to experience and education. A college transcript should be included.

Division of
United Aircraft Corp.

SELLING OPPORTUNITY OFFERED

SALES AGENCY—An opportunity to build a business of your own under the direction of a national aviation sales organization. Unusually high earnings possible (Upwards of \$1000 per month). You must have sales ability, be willing to work hard and sincerely believe in the future of aviation. Sale of planes or equipment not involved. Five to ten thousand dollars required depending on the territory. A knowledge of aviation is helpful but you must not now be a flight operator. Only one appointment open from each non-competitive market area. Give full particulars of your background and how you can be reached by telephone to arrange a preliminary interview. National Flight System, Suite 1112-A, 610 So. Broadway, Los Angeles 14, Calif.

POSITIONS WANTED

AIRLINE TRANSPORT Pilot 14 years' experience, 7,400 hours total; 5,000 hours as Captain on two- and four-engine aircraft. No accidents. Can furnish best of references. Desire position as company pilot or feederline pilot. 35 years old. PW-1151, Aviation Week, 630 N. Michigan Ave., Chicago 11, Ill.

EXECUTIVE PILOT—15 years executive experience in merchandising, advertising, management and personnel with syndicate chain stores. Over 4000 hours civilian and army equipment. Commercial, instructor, instrument, single and multi-engine. A. T. C. experience in Canada, Alaska, India and the U.S.A. Age-35, single. Available thirty to sixty days. W. C. Pace, 500 Franklin, Boise, Idaho.

AIRLINE TRANSPORT Pilot, 6200 hours 0-6500 hp rating, 12 years experience in aviation flying all types of twin and 4 engine equipment on domestic and international airlines and executive pilot. Can furnish best of references. Married, reliable. Desires position with company as executive pilot. PW-1135, Aviation Week, 320 W. 42nd St., New York 18, N. Y.

THE AIRMAN'S guide has been discontinued because of congressional budgetary cuts. Its editor who has extensive experience in airport and airway operations, public relations, economics, and business management, and who is frequently retained on a consultant basis is interested in leaving government and making an industry connection. He has a commercial license, instrument rating, 1700 hours, and a B.A. in business administration, and is 38 years old. Richard J. Aubry, 708 Grandview Drive, Alexandria, Virginia.

POSITIONS WANTED

A&E MECHANIC, both Licenses, five years experience on Military aircraft, just graduated MAM course in civilian aero mechanics school, desires employment with small but growing repair and maintenance organization. Southeastern location preferred, but will consider all offers. Claude C. Belcher, 212 N. 67th Pl. Birmingham 6, Ala.

ADMINISTRATIVE ENGINEER—Positions include that of chief engineer, assistant chief engineer, and chief aerodynamicist with various aircraft companies. Experienced in all phases of aircraft designing, organizing engineering dept., and production engineering, including direction of left & tool. Past three years on gas turbine and jet propulsion engineering. Age 32. PW 1400, Aviation Week, 68 Post Street, San Francisco, Cal.

TRANSPORT PILOT. Former naval aviator. Special instrument pilot attached to Navy department to fly admirals and congressional committees. Desire position as pilot with corporation or individual. Age 27. Commercial pilot—single and multi-engine, land and sea instrument rating. Over 3300 hours. Have flown all U.S. airways, Alaska, Canada, Mexico and South America. Would consider position outside U.S. PW 1385, Aviation Week, 68 Post Street, San Francisco, Cal.

AIRLINE MAINTENANCE superintendent desires change; fifteen years experience in all phases of overhaul, inspection, and conversion. Available at once. PW 1359, Aviation Week, 320 W. 42nd St., New York 18, N. Y.

FOR SALE

New BG-4B28 Spark Plugs 75c each. Discount to dealers. Send for latest catalog. Karl Ort, Dept. SP-13, York, Penna.

Noorduyn Norseman for sale. Only 400 hours total time A&E. No time since recovered and majored. Excellent condition. Floats available. \$8,500.00 or make us an offer. International Aero Factors, Lockheed Air Terminal, Burbank, California.

For Sale, 1946 Ercoupe Ferry time only. Hangared. Make offer S.C. Aero Sales, Wade Hampton Hotel, Columbia, S. C.

BOOKS

New text "Principles of High Speed Flight" \$2.50. Transonic and supersonic aerodynamics, turboprops, turbojets, ramjets, rockets. Table of contents, free on request. Southeastern Research Inst., Inc., Box 1381, Atlanta, Ga.

AVIATION WEEK—July 28, 1947

BOOKS
(Continued from page 47)

Aeronautical Books
For any book or publication on aviation write to us. We have them in stock and can give prompt service. Send for our catalog, or when in Chicago browse around our bookstore. We are exclusive dealers in aviation literature. Aviation House Room 1514, 17 N. State St., Chicago 2, Ill.

OFFICIAL PROPOSAL

Bids: August 19, 1947 (100)

Leasing and Operating of Airport

Sealed bids for the leasing and operating of a public airport known as Linden Airport, formerly known as the Eastern Aircraft Airport at Linden, N. J., located at U. S. Route 1, State Highway Route 25, and Stiles Street in the City of Linden, Union County, New Jersey, will be received by the Governing Body of the City of Linden at the City Hall, Wood Avenue and Blanche Street, Linden, New Jersey, until 9 P. M. Eastern Daylight Saving Time on Tuesday, the 19th day of August, 1947, and then publicly opened and read. Bidders may obtain "Information for Bidders and Specifications" and additional information from City Clerk, City Hall, Linden, New Jersey.

Each bidder must deposit with his Bid a certified check made payable to the order of the City of Linden in the amount of \$5,000.00, subject to the conditions provided in the "Information for Bidders and Specifications".

No bidder may withdraw his bid within forty-five (45) days after the actual date of the opening thereof. The right is reserved to reject any or all bids, to waive any informalities in the bids, and to accept the bid deemed most favorable to the interests of the City of Linden.

By order of the Common Council of the City of Linden.

Thomas J. Wieser
City Clerk

COMPLETE AIRLINE FOR SALE

Sale price includes the following. Franchise for 853 miles of intrastate route, three Cessna UC 78's in excellent condition one BT-13-A above average. Spare parts include four spare engines, one unlicensed UC78, new metal prop governors, fuel pumps, tires etc. Office space, field rights, gasoline and oil contracts and office equipment. An excellent opportunity for three or four young pilots that want to own their airline.

Full price \$27,500.00

BO-1307, Aviation Week
68 Post St., San Francisco 4, Calif.

RISING ESTABLISHED 1930

SUN School of Aeronautics

"Built Upon the Success of its Graduates"
GOVT. C.A.A. & VETERAN APPROVED

2206-16
E. Huntington St. ENROLL NOW
Phila., Pa., Regent 9-0338 FOR NEXT CLASS

NOW! Hercules "T" Hangars

IMMEDIATE DELIVERY
42' x 28' x 10'

Structure Only \$299.67 \$582.21 Aluminum Covered

Based on 6 Units
AIRPORT EQUIPMENT CORPORATION
664 North Michigan Avenue, Chicago 11

Aluminum Co. of America..... 30
Agency—Fuller & Smith & Ross, Inc.

Butler Manufacturing Co..... 33
Agency—R. J. Potts—Calkins & Holden

Cessna Aircraft Co..... 9
Agency—Gardner Advertising Co.

Clifford Manufacturing Co..... 34
Agency—James Thomas Chirurg Co.

Collins Radio Co..... 4th Cover
Agency—McCann-Erickson, Inc.

Curtiss Wright Corp..... 19
Agency—Chas. Dallas Reach Co.

Goodyear Tire & Rubber Co., Inc., Front Cover
Agency—Kudner Agency, Inc.

Hotel Lexington, Inc..... 49
Agency—Campbell-Ewald Co. of N. Y., Inc.

Indiana Gear Works..... 44
Agency—A. L. Perkins & Co.

Interchemical Corp..... 28
Agency—Fuller & Smith & Ross, Inc.

Lavelle Aircraft Corp..... 49
Agency—Broomfield-Podmore

Linear Inc..... 44
Agency—R. E. Lovekin Corp.

Martin Co., The Glenn L..... 42
Agency—Vansant, Dugdale & Co.

Mercury Aircraft, Inc..... 4
Agency—Charles L. Rumrill & Co.

Minneapolis-Honeywell Regulator Co., 2nd Cover
Agency—Addison Lewis & Associates

Nelson Corp., The Herman..... 8
Agency—The L. W. Ramsay Advtg. Agency

New Departure..... 10
Agency—J. M. Hickerson, Inc.

Permatex Co., Inc..... 3
Agency—E. M. Freystadt Associates, Inc.

Reeves Brothers, Inc..... 5
Agency—Goold & Tierney, Inc.

Russell Mfg. Co..... 8
Agency—Chas. W. Hoyt Co., Inc.

Searchlight Section..... 47, 48

Sensenich Corporation..... 4
Agency—Foltz-Wessinger, Inc.

Skymotive Aviation Management Corp..... 40

Sperry Gyroscope Co., Inc..... 6
Agency—Chas. Dallas Reach Co.

Texas Engineering & Mfg. Co., Inc..... 25
Agency—Albert Evans Advertising

Tinnerman Products, Inc..... 3rd Cover
Agency—The White Advertising Co.

United States Rubber Co..... 22
Agency—Campbell-Ewald Co. of N. Y., Inc.

Weston Electrical Instrument Corp..... 36
Agency—G. M. Basford Co.

Whitehead Stamping Co..... 49
Agency—Holden, Clifford, Flint, Inc.

Wilson Co., The H. A..... 20
Agency—Chas. Dallas Reach Co.

AIRCRAFT PARTS, ASSEMBLIES, COMPONENTS and ACCESSORIES

Available for Immediate Delivery from Stock

ALCOHOL PUMPS
744-4, 744-6, 565-3
D-13382, D-7818, 100-4

AUTOMATIC PILOTS
A3, A2A, A5, C1

CARBURETORS
PD-12F2, PD-12F3,
PD-12H2, PD-12K6,
PT-13G1, PT-13G5,
1900-CPB-3
C-47, DC-3, C-54, DC-4

PARTS & ASSEMBLIES
Bungee-DC-3-2116965
Collector Rings-DC4
5174842 & 5174529
Eng. Mount Bolts—DC3 -
1116115, 1117771
Int. Wrench. Bolts—DC3&4
2076904 thru 2076907 Ser.
NAS-140 thru NAS-150 Ser.
Landing Gear Bolts—DC3
AN14-93, 1116409,
1116410, 1116955,
1117078, etc.
Special Screws—DC3 & 4
1027300 & 1027307 Ser.
1027697 & 1029421 Ser.
1029679 & 124030 Ser.
Shear Bolts—DC3 & 4
111904 Ser. all Dash Nos.
Shock Mounts—DC-3
SK1292-1, 1118875, etc.
Special Bolts—DC3
1000403, 1046452,
1117059, 1131032,
1139096, 1143386,
1143538, 1205414.

ELECTRONICS
BC-221, BC-357,
BC-733D, BC-1206,
BC-438, SCR-269,
SCR-274, etc.

ENGINES—At Min. Prices
0-435-1 R1830-G205
R080-9 R1830-43
R755-9 R1830-65
R985-48 R1830-90C
R985-50 R1830-92
R985-AN-1 R2800-13
R985-AN-3 R2800-43
V1710-81 R2800-51
V1710-99 R2800-75
R1820-87 R3350-35

FUEL PUMPS
G-5, G-10, TFD-109,
TFD-8100, TFD-8200,
CH4103-23, Ceco 9103.

GENERATORS
M2, 0-1, P-1

INSTRUMENTS
Comp. Inventory of all types, incl.
Driftmeters B-3 & B-5.

INVERTERS
MG-140, MG-149F.

CESSNA UC-78 OF EXCELLENT QUALITY

Entire aircraft recently recovered, given 100-hour inspection, and annual relicensing. Both engines operated only 96 hrs. since overhaul. Completely equipped interior, full radio, outside baggage door, etc. Priced \$3,950.00 Bayway Oklahoma City.

H. & E. DISTRIBUTING CO., INC.

Oklahoma City
Adm. Offices:
P. O. Box 3596
Ph: 4-5109

Oklahoma
Warehouses:
4025 N. Barnes
Ph: 5-9617



Write for our Catalogs, and Address all Inquiries to Administrative Offices

AIRCRAFT COMPONENTS WAR ASSETS SURPLUS

Propellers and Overhaul Parts
Carburetors and Overhaul Parts
Engine Accessories and Overhaul Parts
Magnetos and Overhaul Parts

Special Tools
Test Equipment
Hangar Equipment
Aircraft Engines

Parachutes

Write or Telephone Your Requests

EIGHTH AIR DEPOT, INC.

Agent for W.A.A.

937 N. E. FIRST AVE.
MIAMI, FLA.

SEBRING AIR TERMINAL
SEBRING, FLA.

R-2000-7's

\$3280.00 Each

"No time since Army overhaul"
Large number available (No Exchange)

Parts For R-2000-7's and R-1830-92's. All parts and Engines Packaged for Long Time Storage and Export.

MEMO: We are handling increasing quantities and types of engines and engine parts. Rapid inventory changes prevent keeping up with our stock in these ads. For your greatest advantage we strongly recommend that you

KEEP US INFORMED OF YOUR NEEDS

STEWART-DAVIS COMPANY, 13501 S. Western Avenue, Gardena, Calif.

CABLE: STEDAV. Phone: Plymouth 5-5144 or Menlo 4-4579

**DEPENDABILITY
ACCURACY
ECONOMY**



Since 1903, Whitehead has supplied American industry with stampings known for these qualities. Write for Catalog.



1673 W. Lafayette Blvd.
DETROIT 16, MICHIGAN

SEARCHLIGHT SECTION

(Classified Advertising)

EMPLOYMENT
Positions Vacant 47
Selling Opp. Offered..... 47

POSITIONS WANTED 47

EDUCATIONAL
Books 47, 48
Schools 48

BUSINESS OPPORTUNITIES
Offered 48

NOTICES
Proposal 48

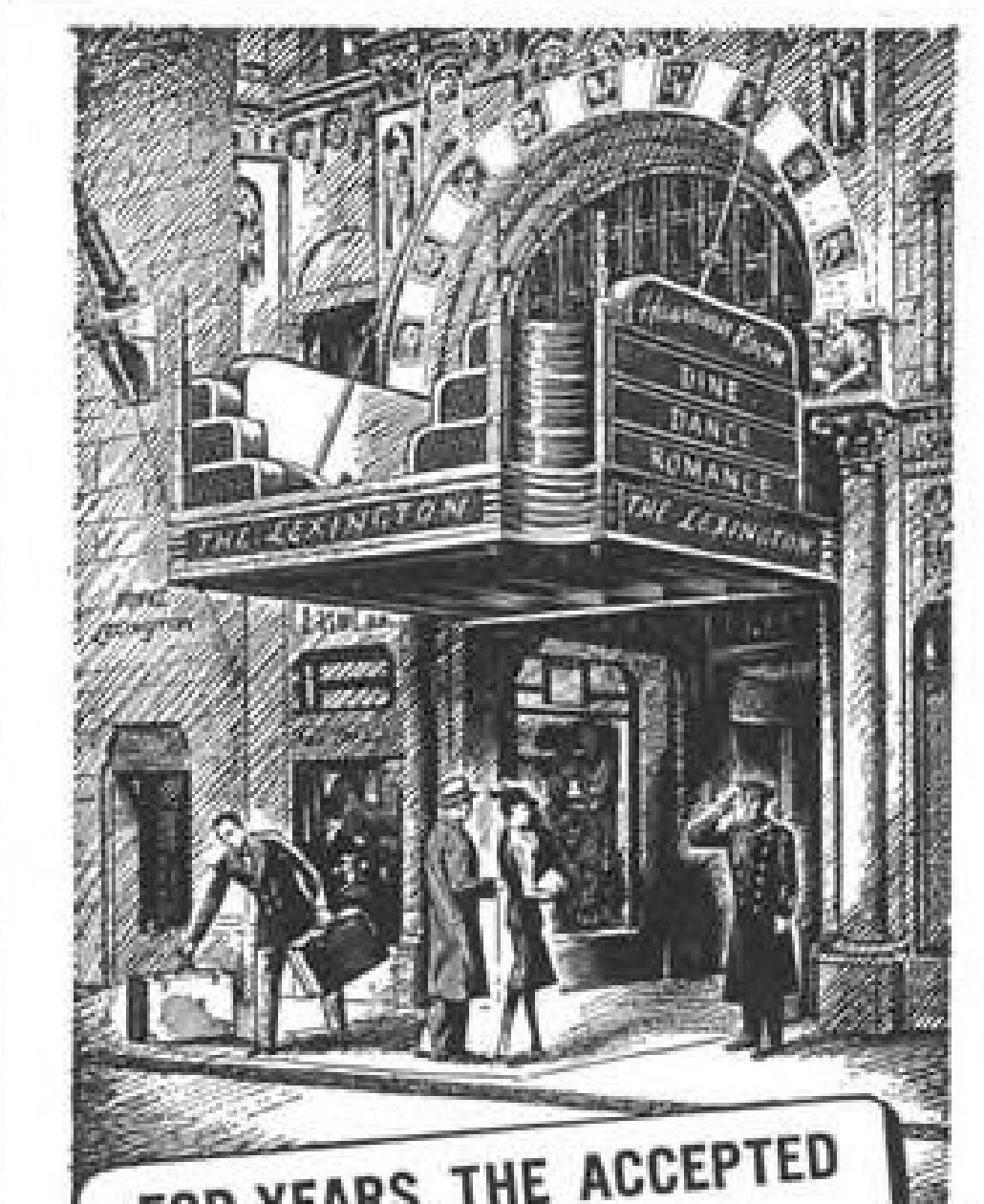
EQUIPMENT
(Used or Surplus New)
For Sale 47, 48

Lavelle PRECISION ENGINEERING

for AVIATION • RADAR AND ALLIED INDUSTRIES

Highly specialized experience in precision manufacturing, and geared to accept your difficult engineering problems.

Lavelle AIRCRAFT CORPORATION
NEWTOWN, Bucks County, PENNA.
C.A.A. Approved Repair Station Certificate No. 2731



FOR YEARS, THE ACCEPTED
NEW YORK
"HEADQUARTERS"
OF AIR LINE EXECUTIVES

Hotel Lexington

LEXINGTON AVENUE AT 48th ST., N. Y. C. 17

HOME OF THE *Hawaiian Room*

EDITORIAL

Politics Again

Primarily because Elliott Roosevelt has potent political enemies, some of whom support election campaigns of men on Capitol Hill, we are going to see another "investigation" of an aircraft manufacturer.

Sen. Brewster seeks to subpoena documents of the White House in connection with orders given by the government to Howard Hughes. The canny Brewster's keen insight into publicity prompts him to summon a number of Hollywood glamor girls to his Washington inquiry.

Washington observers think the proceedings which open next month will be one of the cheapest spectacles Capitol Hill has ever pulled.

It has never been any secret in Washington that the order the government gave for the giant cargo-carrying flying boat was President Roosevelt's idea. Neither of the air services, according to reliable reports at the time, was slightly interested in a giant plywood plane. Both Army and Navy fought shy of it vigorously. So did the rest of the aircraft industry. So the President "asked" RFC to back the project.

Two Air Policy Boards

The aircraft industry, which for months has fought for establishment of an air policy board along the lines of the old Morrow group, suddenly finds it has a commission named by the President and promise of another to be created by Congress.

The situation developed so rapidly last week that many industry observers are breathless, unable to venture a guess as to whether it's all good or bad. No one denies that there is a sizeable chunk of dynamite in the machinery. The fervent hope is that we can prevent concussions. The dynamite enters the picture at the beginning. It's the jealousy that some Capitol Hill people have for the President's group. We shall have two groups working on the same subject at the same time.

On the President's commission are men with backgrounds of general business rather than commercial aviation. The congressional board will utilize their legislative and political experience. Few are likely to have outstanding business attributes, but the industry hopes the appointees will be noted for their statesmanship and their awareness of world affairs.

Sources of information will be the same for both commissions. It is in the interpretation of that information that the disagreements can be expected.

There have been too many air policy commissions,

The Government, meaning the White House, was determined to see the big ship through. Howard Hughes, never a conventional manufacturer, but always interested in aeronautical research, saw an opportunity to experiment with the bonded plywood process which he owned. As in his other research projects, he is reputed to have poured much of his own money into the big flying boat.

As for Hughes' failure to deliver certain experimental military aircraft, there was nothing unique about that in our war experience. The Army and Navy initiated designs for scores of test aircraft which were abandoned.

We are not defending Howard Hughes or any other manufacturer, nor do we think war contractors should be immune from Congressional investigations. But when we see an "inquiry" start out like this one, with all the signs of a smear campaign planned to monopolize the tabloids with testimony of beautiful Hollywood girls, girls, girls, we think Capitol Hill is stooping very low indeed. We don't believe either facts or justice are the objectives of this spectacle.

committees and boards already. Their voluminous findings have been packed away in store-rooms and libraries with no more attention than momentary publicity. Now that the President of the United States and the Congress have suddenly paved the way for a special group to report to each, the possibilities of an adequate national air policy are brightened impressively.

The aircraft industry and the nation's airlines will cooperate completely with both committees. Information will be available to the investigators at a moment's notice. Every phase of commercial aviation will stand ready to be of service to the President and Congress.

Key to success, however, lies in the men who are appointed to these commissions. Will they be big enough to put the interest of their country above politics and petty prejudices? Will they be able to cooperate, or will they sink to headline hunting? We have every confidence in the President's appointees. These have been announced and they are excellent selections.

But air policy depends in large measure on Congress for implementation. It is also in Congress that the appointments are still to be made. If they are statesmen, the success of both commissions seems assured. If they are politicians air power and the country are still bogged down in confusion.

ROBERT H. WOOD

AVIATION WEEK, July 28, 1947

Speed Nuts^{*} on the Douglas "Skystreak"



The New Supersonic
"Skystreak"
uses 399 TINNEMAN FASTENERS

The new Navy Douglas "Skystreak" is a revolutionary research airplane designed to whisk across the skies and challenge the weird phenomena of the sonic barrier.

According to the Navy Report, the "Skystreak" is 60% stronger than any combat type plane ever built and utilizes the most advanced construction ideas.

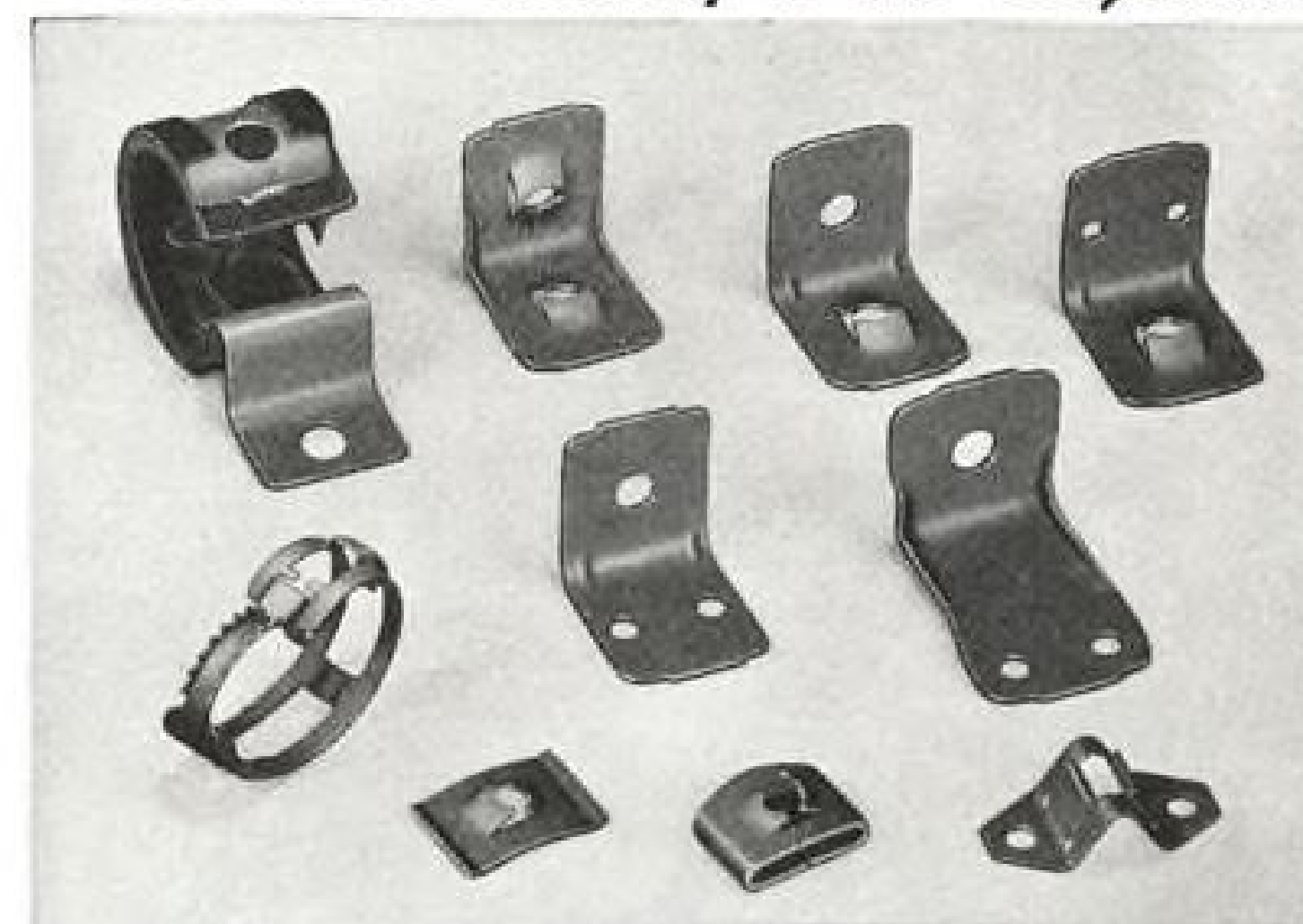
Douglas engineers chose Tinnerman SPEED NUTS and SPEED CLAMPS for 399 applications where better, light weight, vibration-proof fastenings were needed.

SPEED NUTS are fully approved by the Navy Bureau of Aeronautics, the Army Air Forces and the Civil Aeronautics Administration, for secondary and non-structural attachments. Write for full details and test samples.

TINNEMAN PRODUCTS, INC.
2210 FULTON ROAD • CLEVELAND, OHIO

In Canada: Wallace Barnes Co., Ltd., Hamilton, Ontario
In England: Simmonds Aerocessories, Ltd., London
In France: Aerocessaires Simmonds, S. A., Paris
In Australia: Simmonds Aerocessaries, Pty. Ltd., Melbourne

399 of These 10 SPEED NUT Fasteners are
Used in the Assembly of the "Skystreak"



Speed

MORE THAN 3000



Nuts^{*}

PATENTED
SHAPES AND SIZES

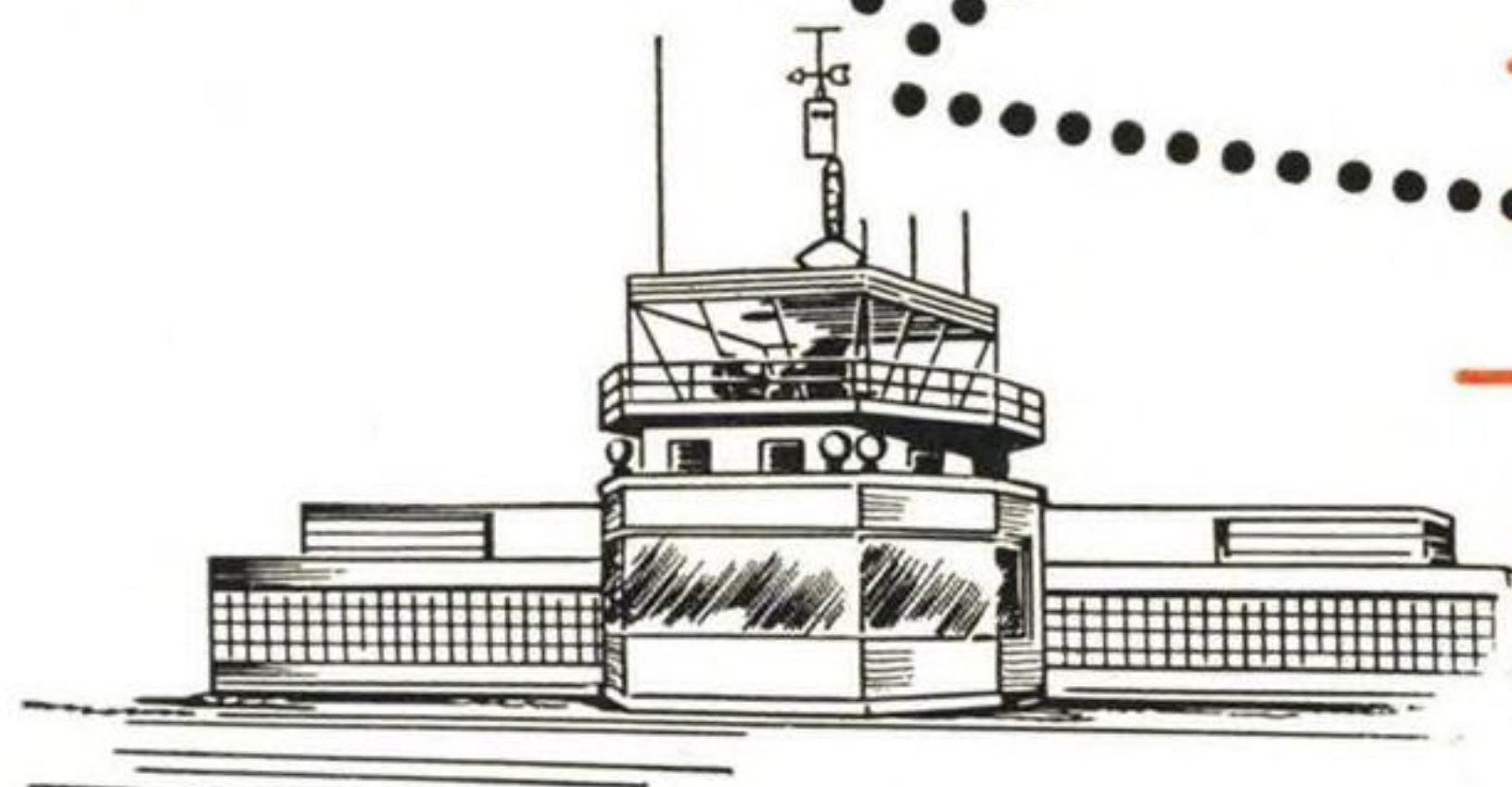
* Trade Mark Reg. U. S. Pat. Off.

F A S T E S T T H I N G I N F A S T E N I N G S

Dependable VHF Radio Reception



The Collins 51M-2
VHF Receiver



for Municipal Towers

Remote Operation

The many inherent advantages of very high frequency radio communication between control towers and aircraft can be realized with Collins equipment. The Collins 51M-2 VHF radio receiver for ground stations provides continuous, reliable reception on any one frequency between 118 megacycles and 136 megacycles. It can be installed in a remote location and left unattended, with all necessary control circuits and audio output connected by telephone line to the operator's position.

Million-to-One AVC Range

A carrier operated audio muting circuit is provided; thus background noises can be greatly

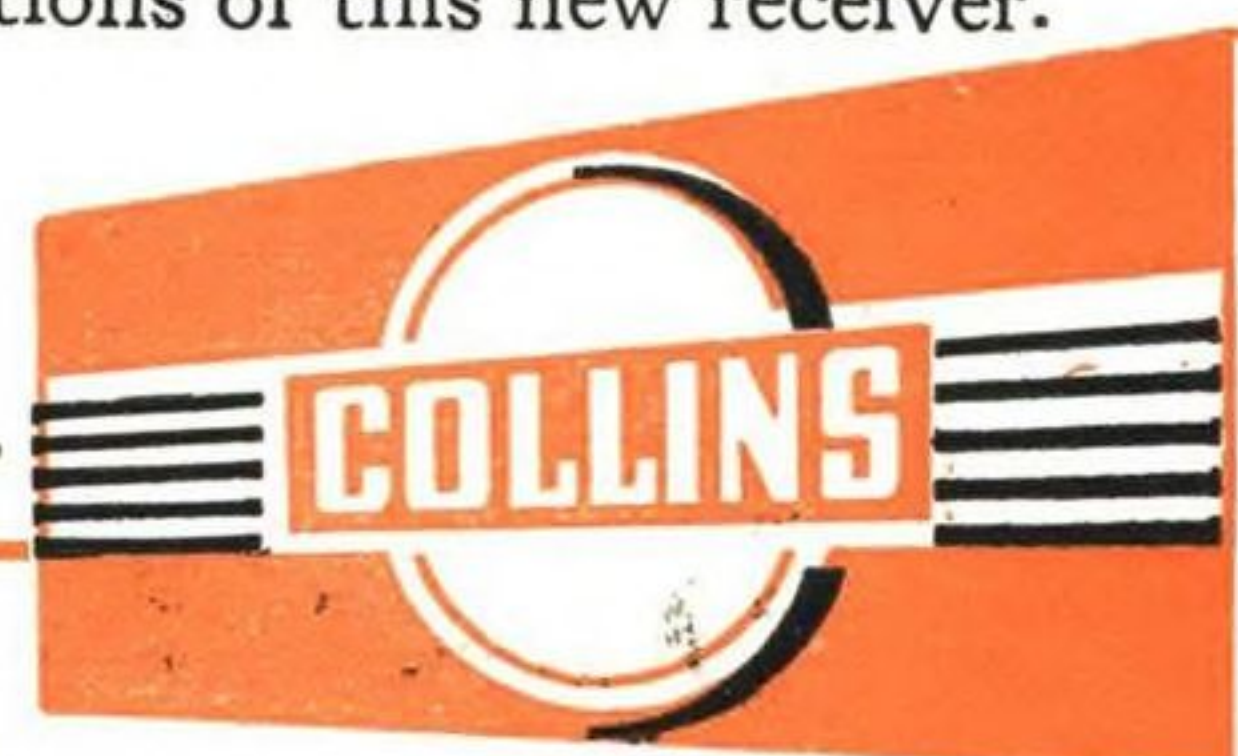
reduced during the absence of radio signals. The muting threshold is adjustable. Automatic volume control maintains an essentially constant audio output even though the strength of the r-f input signal varies over a million-to-one ratio.

No Spurious Responses

High sensitivity, signal to noise ratio, and rejection of spurious signals contribute to the superior performance. Use a 51M-2 for each frequency you wish to monitor. You can mount them all in a single cabinet and utilize a single antenna without interaction.

Let us send you an illustrated bulletin giving detailed specifications of this new receiver.

IN RADIO COMMUNICATIONS, IT'S . . .



COLLINS RADIO COMPANY, Cedar Rapids, Iowa

11 W. 42nd Street, New York 18, N. Y.

458 South Spring Street, Los Angeles 13, Calif.