

# AVIATION WEEK

JAN. 19, 1948

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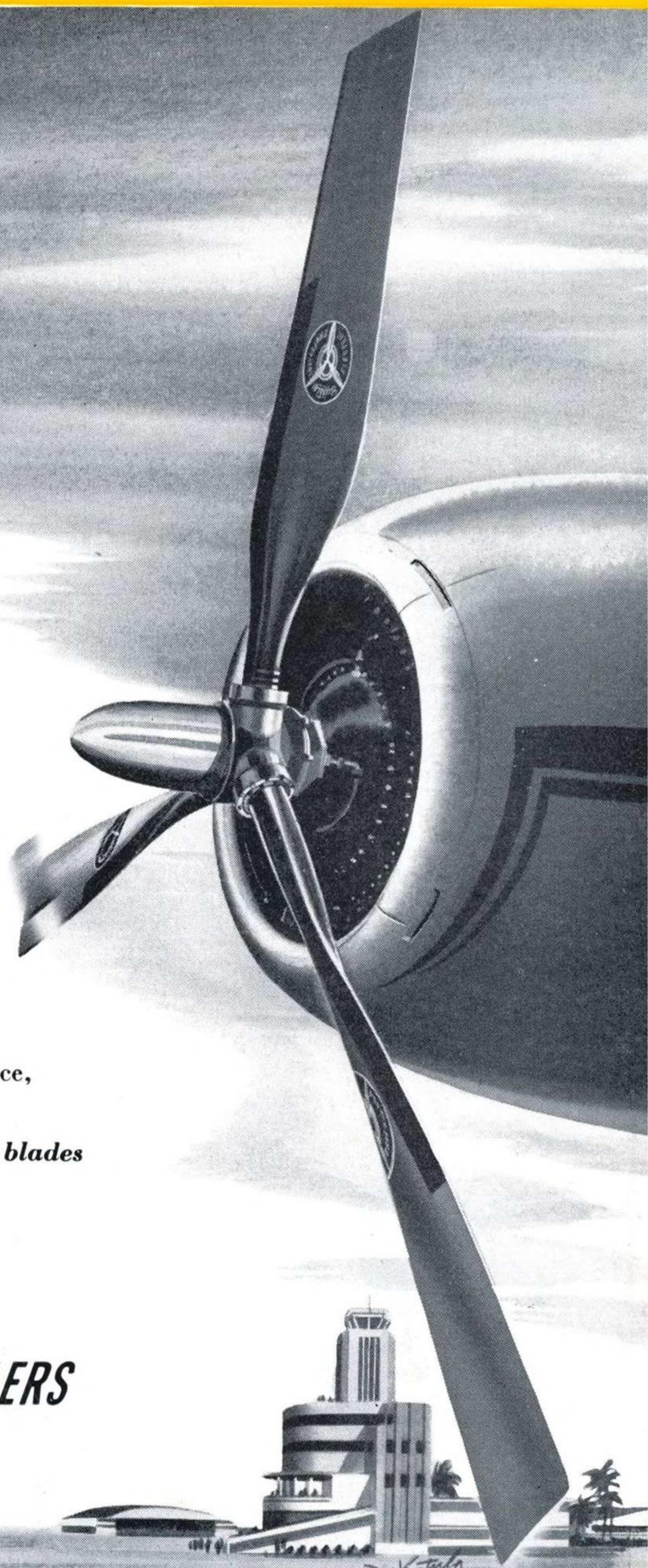
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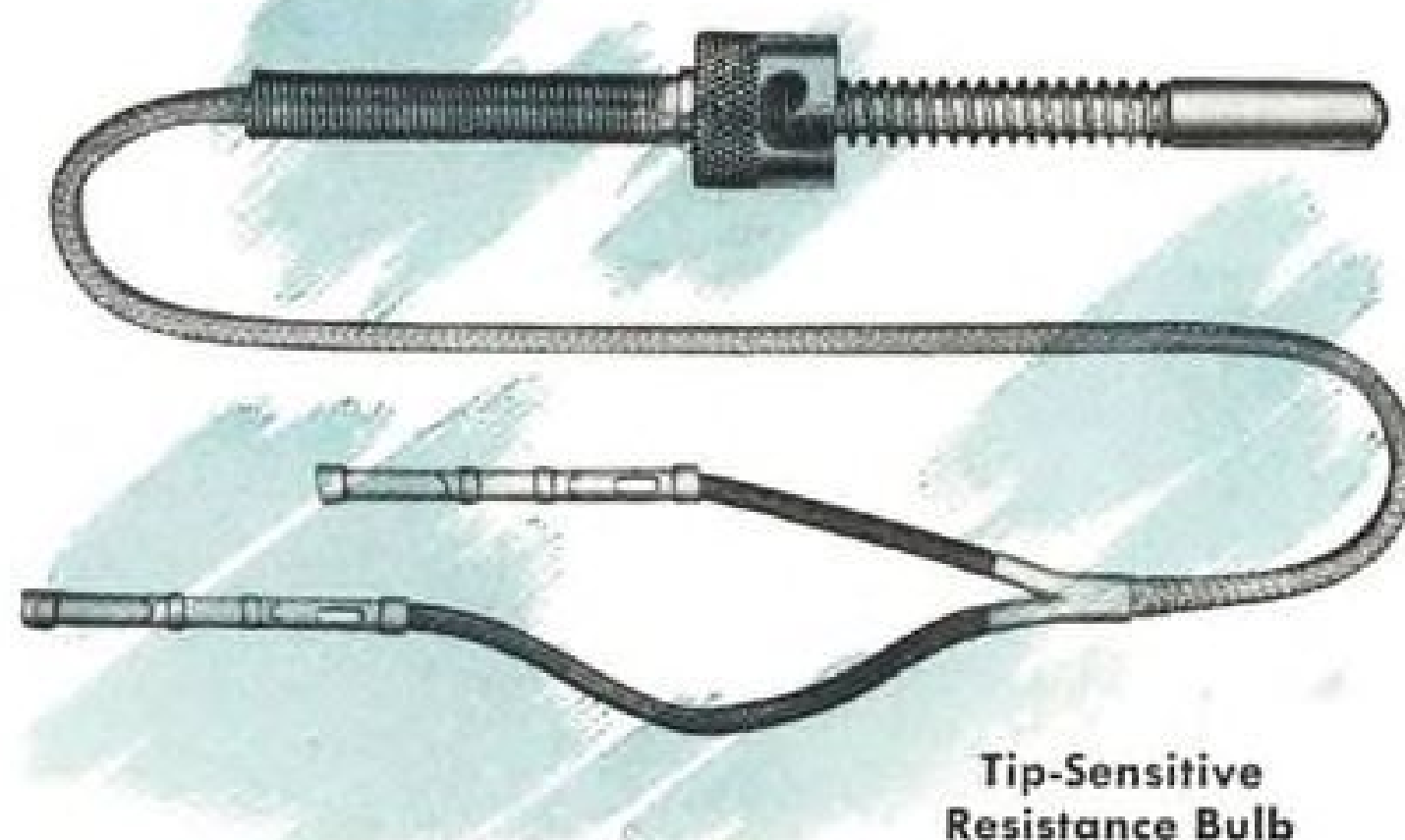
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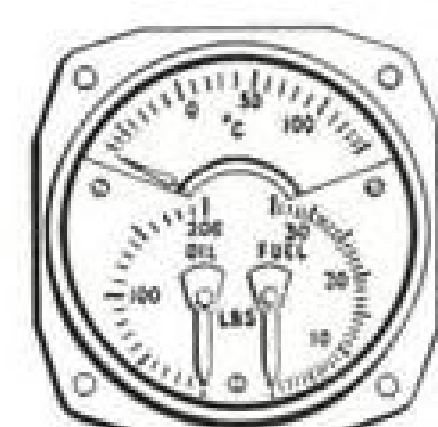


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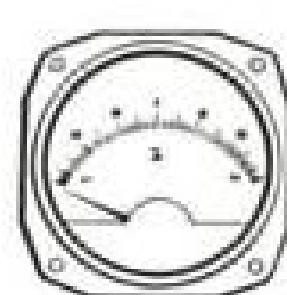


Dual Electrical Indicator

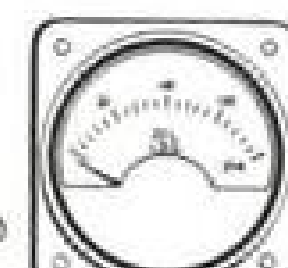
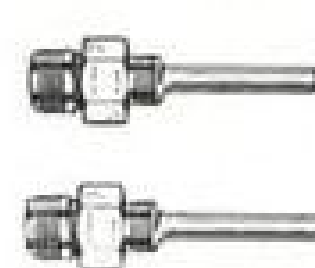
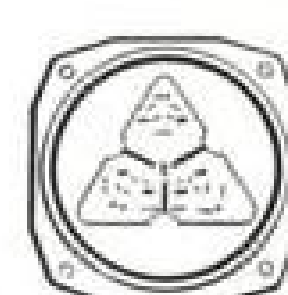
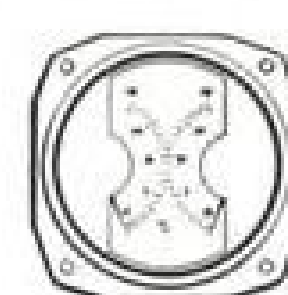
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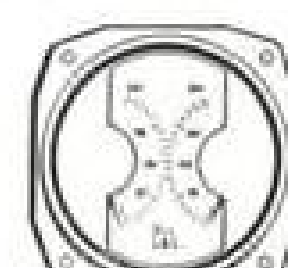
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# AVIATION WEEK

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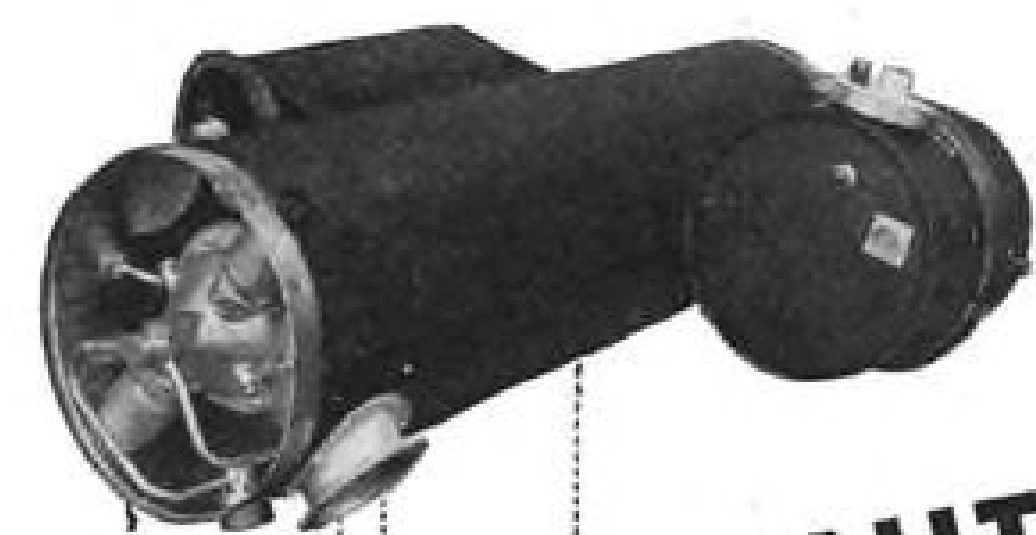
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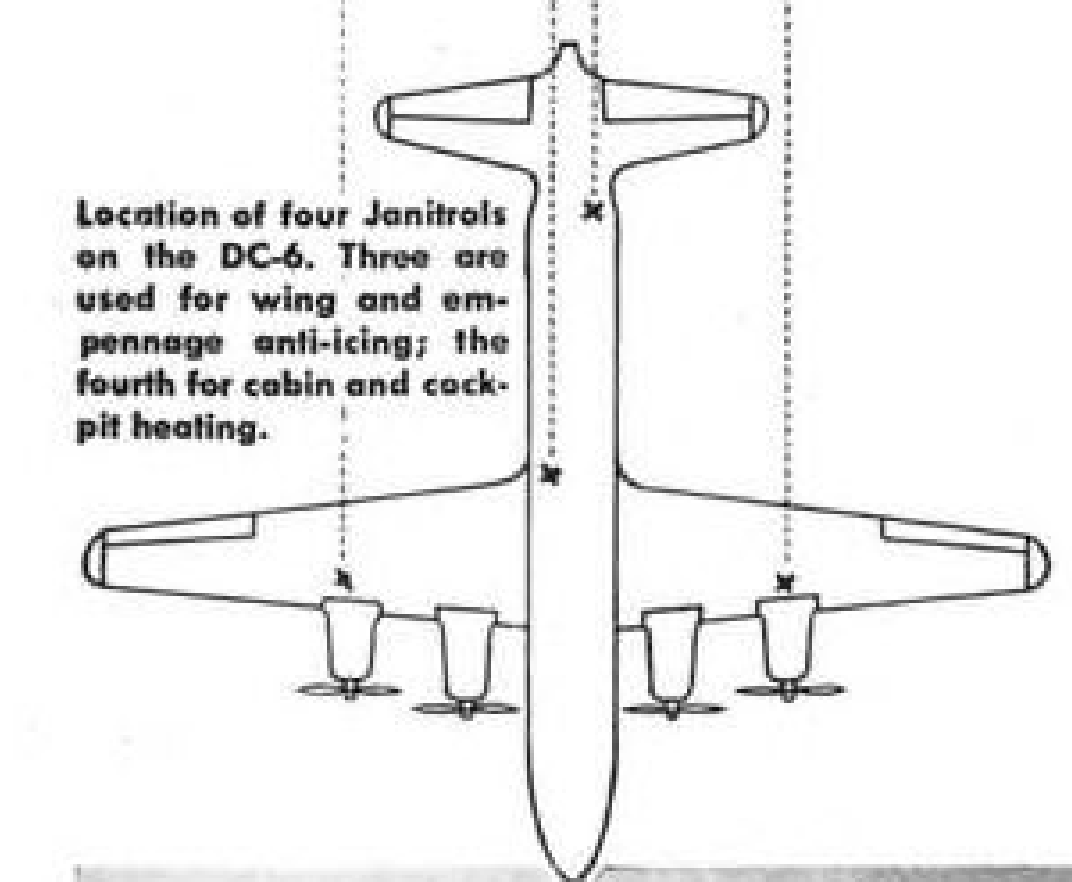
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Location of four Janitrols on the DC-6. Three are used for wing and empennage anti-icing; the fourth for cabin and cockpit heating.

ALTHOUGH more than 50,000 Janitrol Whirling Flame Aircraft Heaters have proved their dependability under all flying conditions... research and development work here at Surface Combustion has not slackened.

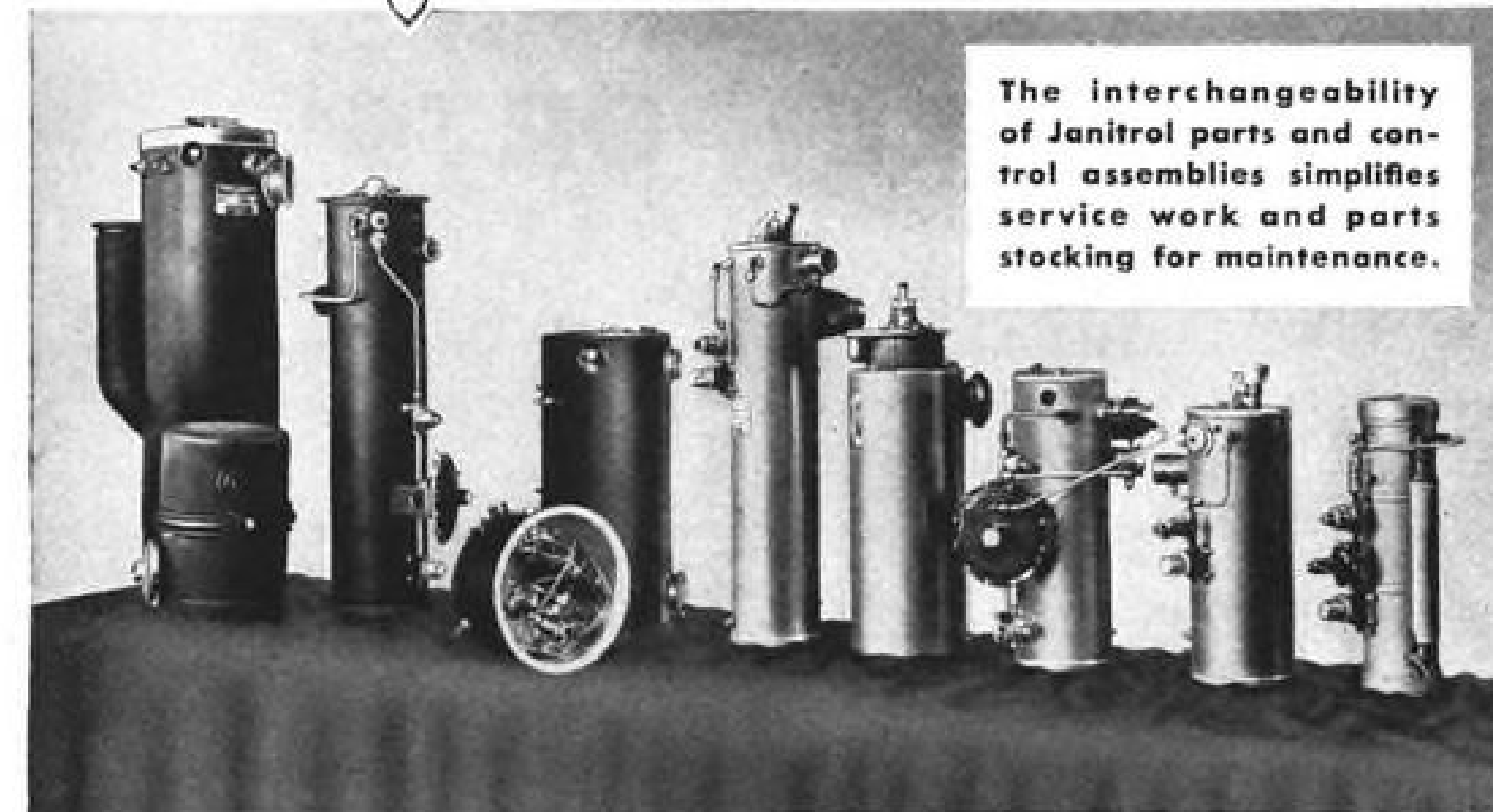
Just as Janitrol engineers originated the fuel injection system and the adaption of spark ignition for aircraft heaters, so new advancements are still being tested in the laboratories and in test flights to provide for even greater passenger comfort and safety.

The use of four Janitrols in the Douglas DC-6 for complete year

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## THE AVIATION WEEK

**NO EASY WAY**—Any disappointment that is experienced in aviation circles over the report of the President's Air Policy Commission undoubtedly will stem from this document's re-affirmation of the long-held suspicion that there is no easy way out of aviation's present difficulties.

The report contains very little that has not previously been recommended, and in vain, by both government and private aviation representatives. It offers no panacea, and no alternative to increased government expenditures which, through national defense contracts, would help manufacturers, and through higher mail payments, would tide the airlines over.

Aviation observers consequently feel that the report is important not so much in recommendations as in the source of those recommendations. The

porter would tend to highlight recommendations of the majority, subordinate opinions of the minority.

This appears to be the procedure followed by the Commission and could very well be responsible for the absence (with one possible exception) of any novel or spectacular suggestions.

While the report contains a number of shrewd observations on a variety of aviation situations, there is little searching analysis of the basic soundness of some of the opinions expressed in the hearings and carried forward into the report.

This could be the result of lack of time. The Commission is one of the few government fact-finding bodies ever to meet its deadline. In fact, it submitted its document two days early.

There also is an absence of discussion of the long-range implications of some of the recommendations. The result is that the recommendations assume the substance, at least, of proposals for temporary emergency measures only.



Members of the President's Air Policy Commission stand by as Mr. Truman looks over their report. Left to right: Palmer Hoyt, George Baker, John A. McCone, S. Paul Johnston (executive director), Chairman Thomas K. Finletter and Arthur Whiteside. (Press Assn.)

Commission was established by the President as his own fact-finding agency to weigh the requests of both official and non-official aviation interests, and to make recommendations "so broad in scope and purpose that they will assist in revising old policies and in framing new ones. . . ."

This the Commission has done in detail. The President obviously is not committed to accept in toto the recommendations of the Commission. But, having asked the Commission to examine the situation, there cannot be for him any higher authority.

**GOOD REPORTING**—Possibly reflecting the presence on the Commission of a seasoned publisher and on the staff of several experienced journalists, the Commission's document in essence is an excellent reporting job. The President's letter of appointment last July laid down the beat to be covered.

It was covered well and, consciously or unconsciously, the subsequent report takes much the form of a non-technical reporter's story on a technical subject following interviews with all qualified experts. In such a case the re-

**BATTLE CRY**—The one novel, and possibly unexpected proposal of the Commission is for a Department of Civil Aviation and its resultant absorption of CAA, creation of an Air Safety Board and changes in CAB.

This proposal could be a battle-cry for various groups and sponsor a legislative Donnybrook.

Establishment of a Department of Civil Aviation probably would require legislation. Steamship and railroad interests in particular have been aching for an opportunity to push wholesale amendments to the Civil Aeronautics Act. If that Act is ever opened up for amendments to authorize the Civil Aviation Department and an enlarged CAB, it would be difficult to prevent, in a Republican Congress, consideration of other amendments.



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## NEWS DIGEST

### DOMESTIC

Vice Admiral John D. Price was named Deputy Chief of Naval Operations for Air, succeeding Vice Admiral Arthur B. Radford.

CAA, CAB and Eastern Airlines personnel were probing the crash of an Eastern Douglas DC-3 crash on final approach to Washington from New York. Five persons were killed and four others were seriously injured. The plane's two altimeters showed readings of 1200 and 8600 ft., both far wrong.

National Airlines expects to have its first Douglas DC-6 in operation before the end of January on the New York-Miami run.

President Truman awarded the Medal of Merit to ten wartime members of the National Advisory Committee for Aeronautics for their contribution to U. S. aviation science during the war period. Dr. Orville Wright has delayed his trip to Washington to receive the award pending an improvement in his health. Others honored were: Dr. George W. Lewis, wartime NACA Director of Aeronautical Research; Dr. William F. Durand, wartime expert in jet propulsion studies; Dr. Jerome C. Hunsaker, present NACA Chairman; John F. Victory, NACA Executive Secretary; Dr. Lyman J. Briggs and Dr. George J. Mead, wartime Committee members; and Smith J. DeFrance, Edward R. Sharpe, and Henry J. Reid, NACA laboratory heads.

### FINANCIAL

Fairchild Engine and Airplane Corp. reports net income \$86,999 for five months ended May 31. This income includes the effect of a \$95,250 provision for contingencies, and is equal to 4 cents a share on 2,302,707 outstanding capital shares. Sales for the period were \$16,069,380.

Senate approved two measures last week which authorize a total of \$464,955,200 in new public works projects for the Army, Navy and Air Force. The measures were expected to receive speedy approval in the House.

### FOREIGN

Great Britain and Peru have concluded a bilateral air transport agreement covering services between Europe and South America and connecting Peru with various British colonies.

Ecuador's Economic Council has refused to approve a recommendation reducing taxes on airlines but has endorsed a 30 percent increase in passenger and freight rates.



## Big year at Boeing

Out of Boeing's plants in 1947 came four new aircraft, all of major national importance.

First to be launched was the Boeing B-50 bomber, a faster, more powerful, harder hitting version of the famous B-29. The B-50 will form the backbone of the Air Force's long-range bombardment program.

Next came the Stratocruiser, most spacious, most comfortable and fastest airliner in the skies. Powered, like the B-50, by four 3500-horsepower engines, the twin-deck Stratocruiser is the first true super-transport of the post-war era.

Third of the new Boeing ships to fly was the Army's L-15 liaison plane.

Radical in design, this small aircraft is expressly built to provide the versatile performance needed by the Army Ground Forces for observation, range-finding and liaison work.

Last of the quartet was the experimental XB-47 jet bomber—incredibly fast—revolutionary in concept. It marks a forward stride in bombardment aircraft as significant as the advent of the Boeing B-17, in 1935.

Each of these four planes is the result of years of work. And into each has gone the integrity of Boeing research, design and engineering that has become a byword: "If it's built by Boeing, it's bound to be good!"

Boeing is building fleets of Stratocruisers for these forward-looking airlines:

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NORTHWEST AIRLINES  
AMERICAN OVERSEAS AIRLINES  
UNITED AIR LINES  
BRITISH OVERSEAS AIRWAYS CORP.

For the Air Force, the B-50 bomber, XB-47 jet bomber and C-97 Stratofreighter; for the Army, the L-15 liaison plane.

**BOEING**  
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## Air Power & UMT

There is strong and bi-partisan support for Sen. Taft's position that if \$2 billion a year is to be added to the national defense budget, it should be channeled to the air arms, primarily for aeronautical research and development, instead of into a universal military training program, as proposed by the President. Democratic Sen. Thomas, former chairman of the Military Affairs (now Armed Services) Committee, concurs. Rep. Abe Goff (R., Idaho), a veteran of both world wars and a member of the American Legion, is actively fighting legion pressure publicity for UMT, maintaining that "national defense strength is now measured in new weapons, industrial reserve, reserve of technically trained and proficient manpower, not by mass manpower."

## New Postal Rate Makers?

House Post Office Committee is inclined to toss haranguing over postal rates and payments to carriers into the lap of a separate postal rate-making body. The committee will open hearings shortly on legislation, introduced by Rep. Katharine St. George (R., N. Y.), setting up a three-member bi-partisan board in the Post Office Department which would submit recommendations to Congress annually on rates for various mail categories.

Each rate recommended would be geared to assure the Post Office an income equal to expenditures but it would have to be acted upon by Congress within 60 days after it was submitted. The House committee is now quietly drawing up a report recommending ways and means of wiping out mounting Post Office deficits, including deficits in the air-mail service, estimated at approximately \$15 million for the 1947 fiscal year.

## Piston Engine's Future

The President's Air Policy Commission report took a slap at NACA's engine research policy, pointing out that it regarded abandonment of piston engine research as premature. NACA now has no piston engine research under way at its Cleveland engine research laboratory—devoted entirely to jets. The Commission predicted a long life for piston engines and the propeller in long-range bombers and transports. Elsewhere, the report generally praised NACA's accomplishments.

## Landis a Syndicate Writer?

Some Washington insiders say James M. Landis, ex-chairman of CAB, is considering writing a series of syndicated articles for newspapers on the general subject of airline safety. If these reports are true, the matter would bring up another difficult public relations problem for the carriers.

## All Purpose Trainer

Meeting the challenge of those who cry for economies from service unification is the Air Force's recent circular proposal for advanced trainer designs. This new "all purpose" plane would be capable of taking a student pilot all the way from his first flight to advanced combat training, eliminating the specialized need for primary, basic and advanced trainers, and combat aircraft used for transitional training purposes.

North American has developed such an airplane in its XSN2J-1, designed,

## No Word on ATC-NATS

Indications are that the ATC-NATS merger problem will not be finally settled for some time. Defense Secretary Forrestal told the House Armed Services Committee last week that no final decision has been made yet and that he is still working on details of the plan. Indications are that some form of merger is in the mill as previously reported here. One version would place all air transport under the Air Force but overall command in Rear Adm. John W. Reeves, NATS commander, who would report to Air Force chief Spaatz.

NATS' excellent operations record has been the focal point in the Navy's case to retain its own air transport. If Navy retains NATS, look for increased development of large flying boat transports utilizing new powerplants, planing tail hulls and other recent research results in flying boat design. Navy visualizes flying boat transport as a method of keeping carrier task forces at sea indefinitely.

however, to a Navy specification. Indications are strong that the Navy is passing this airplane up, leaving it available to the Air Force. What the Air Force does about it is seen as a test case of the flying generals' argument for unification as a joint-procurement economizer.

## Names in the CAB Ring

Dr. John B. Crane, transportation expert and administrative assistant to Sen. George Malone (R., Nev.), reportedly is in the running for appointment to the CAB vacancy created by the departure of Clarence M. Young last fall. Another name discussed is Lynn Bollinger, now on the staff of Harvard School of Business Administration, who recently directed a nationwide study of fixed base operations.

## Secretary of Civil Air

Sources close to the Air Policy Commission describe the proposed reorganization of the civil aviation branches of the federal government as designed to create a Secretary of Civil Aviation on a co-equal status, administratively, with Secretaries of Air Force, Navy and Army. Main purpose is to prevent a re-currence of the "pushing around" which civil aviation had from higher echelon military in the early stages of World War II. Washington rumors that Commerce Secretary Averill Harriman was partly responsible for the recommendation are discredited. It is claimed within the Commission that Harriman did not present any recommendations to the staff on this point.

## Weather Reports Hurt Airlines

Commercial broadcasts of flying weather, worded inadvertently or otherwise so as to scare away passenger traffic, are troubling the Air Transport Association. In the past, broadcasts have stated that "poor" flying weather exists, "bad" weather prevails, or that "certain routes are closed." The undesirable phraseology has been brought to the attention of Weather Bureau officials, who, again, have agreed to advise their field personnel that scripts must be carefully screened before being approved for broadcast. Purpose of the screening is to ascertain that the private pilot is able to obtain desired weather information and also to insure that the phraseology will not discourage passengers from riding the airlines.

## Big Increases for Aviation Funds Asked by Truman in '49 Budget

Air Force, Naval Aviation, CAB, NACA and CAA all listed for 10 percent to 35 percent boosts in next fiscal year to accelerate civil and military aviation programs.

The President's 1949 fiscal year budget, submitted to the economy-bent Republican Congress last week, contemplates substantially accelerated civil and military aviation programs.

It proposed:

- A U. S. Air Force budget totaling \$1,719,426,000—\$1,169,426,000 cash and \$550,000,000 contract authorization. This is an approximate increase of 35 percent over USAF's current-year appropriation of \$1,259,272,000—\$829,272,000 cash and \$430,000,000 contract authorization. The new budget earmarks \$250,000,000 for liquidation of contracts entered into under this year's contract authorization.

- A naval aviation budget of \$1,064,668,000—\$691,668,000 cash and \$373,000,000 contract authorization. This amounts to a 42 percent increase over the current-year appropriation of \$749,000,000—\$501,000,000 cash and \$248,000,000 contract authorization.

- A \$155,570,000 appropriation for Civil Aeronautics Administration, which is a \$36,255,666, or 30 percent, increase over CAA's current-year allocation of \$119,314,334.

- A \$3,650,000 appropriation for the Civil Aeronautics Board, a \$610,000, or 20 percent, increase over the board's current-year appropriation of \$3,040,000.

- A \$48,000,000 appropriation for the National Advisory Committee for Aeronautics, a \$4,546,000, or 10 percent, increase over NACA's record-high current-year allocation of \$43,454,000.

- A \$9,351,171 appropriation for the Army's Signal Corps for construction of airways communications radio systems—several times the current year appropriation of \$1,844,820 for this purpose.

The President estimated that 54 percent of his proposed total budget of \$9,796,739,700 for the departments of Army, Navy, and Air Force is to support aviation activities, only 46 percent to support ground and sea services.

► **USAF Program**—The USAF budget contemplates a force of 55 combat groups and 17 separate squadrons, "will permit a higher level of maintenance and operation, with a considerable increase in aircraft procurement." The proposed naval budget will retain naval aviation at its current-year strength, but also permit increased plane procurement.

Estimating a total availability of \$1,172,000,000 for obligation for aircraft procurement in the proposed USAF and naval aviation budgets, the President stated in his accompanying message: "Increased replacement of aircraft is essential in the fiscal year 1949 to support our air arms at the planned levels. Wartime reserves of planes and parts are becoming depleted or obsolete." He estimated another upswing in aircraft procurement in the 1950 fiscal year, under the proposed increase of 30

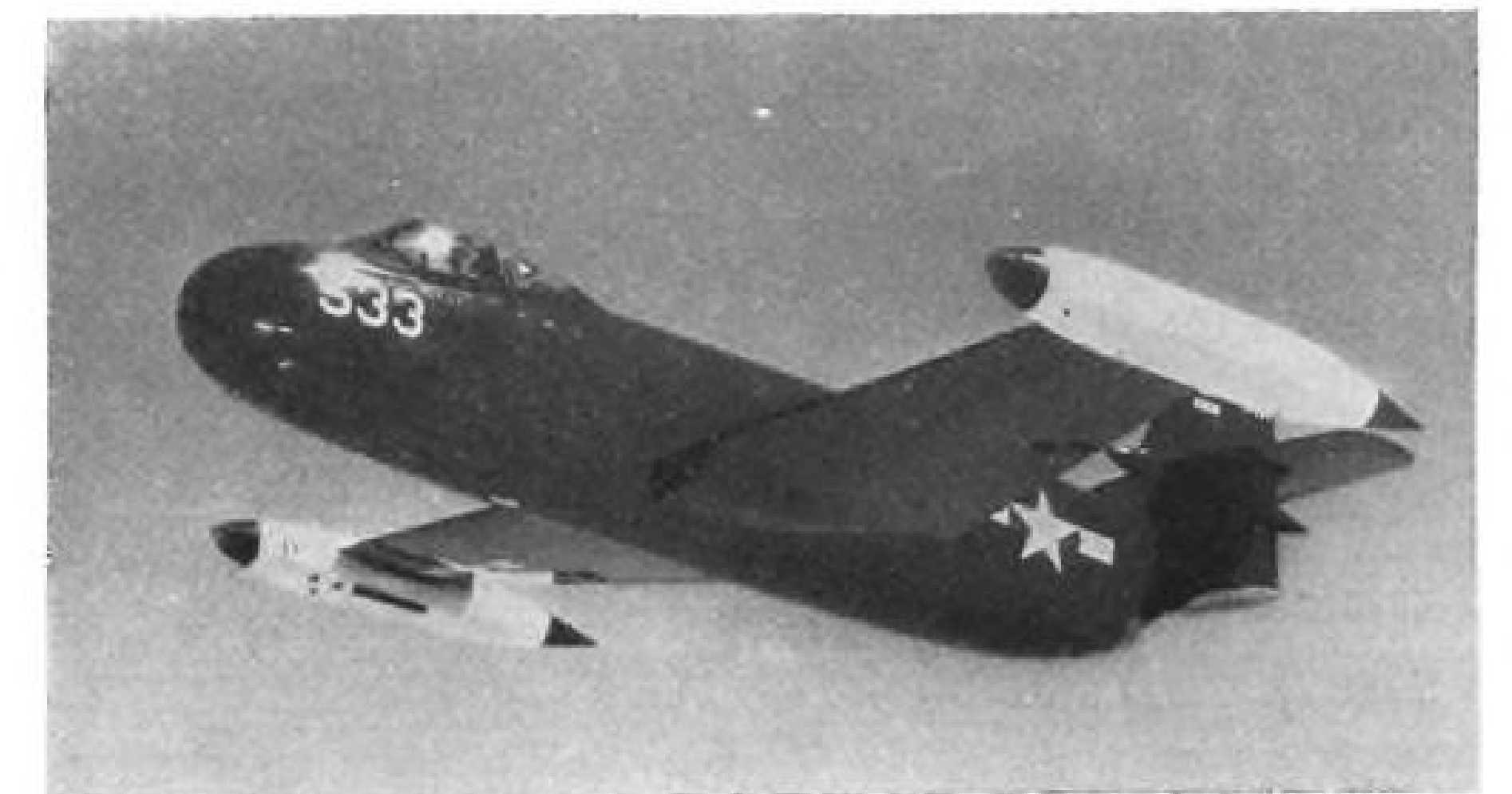
percent in procurement contract authorization for 1949.

► **Procurement Boost**—USAF's obligation schedule for aircraft procurement for the 1949 fiscal year is set at \$767 million, 30 percent (\$179 million) higher than estimated current year obligations of \$588 million, and 104 percent (\$393 million) higher than 1947 fiscal year obligations of \$375 million.

Naval aviation's obligation schedule for coming-year aircraft procurement calls for an even sharper—40 percent—increase over the current-year program. Obligations for naval aircraft procurement for the 1949 fiscal year are set at \$478 million, comparing with estimated obligations of \$340 million for the current year, and \$313 million for the 1947 fiscal year.

The leveling off of funds for naval aviation research and development and the decrease in funds for USAF's research and development program proposed in the President's budget came as a surprise to aviation circles, looking to a steady acceleration of activity in this field holding the key to aeronautical progress. It is anticipated, however, that the services will expend a sizable portion of their increased funds and contract authorization for procurement on developmental contracts.

The \$75 million proposed for the Navy's aeronautical research and devel-



## VOUGHT PIRATE PASSES TESTS

Flight photo of Vought XF6U-1 Pirate jet fighter shows new wingtip tanks with which it has passed Navy flight tests at Patuxent, Md. Tanks are especially designed to spring clear of the airplane upon release, preventing tumbling into the tail surfaces. Speedy fighter, constructed largely of Metalite sandwich materials for smooth finish, has been ordered in quantity by the Navy for service tests. (Navy photo)





### UNIFICATION IN THE AIR

Air Force P-80 Shooting Star jet fighter is shown here as it leaves the deck of the Navy carrier U.S.S. Franklin D. Roosevelt off the Virginia Capes. Piloted by world speed record holder Marine Lt. Col. Marion Carl, the craft used the FDR deck catapult and flaps to aid rapid takeoff. The sleek fighter was especially strengthened for the tests. (Navy photo)

opment program is the same amount appropriated in the 1947 and 1948 fiscal years.

USAF's allocation for research and development under the President's budget program would drop from the \$134 million for the present fiscal year to \$129 million next year. An increase in USAF research personnel, however, is indicated. The \$28 million earmarked for research and development salaries compares with an allocation of \$24 million for the current year.

Following are other highlights from the President's 1949 USAF budget.

- **Communications.** The \$35.5 million recommended for procurement of airborne and ground communication equipment is substantially below the allocation for this year (\$40 million) and the 1947 fiscal year (\$72 million).
- **Controlled Missiles.** The \$1.3 million allowed for procurement of controlled missiles represents a decline from the estimated \$13 million obligated this fiscal year. (The \$9.3 earmarked in the naval aviation procurement budget for pilotless aircraft compares with the \$10.1 obligated this year, the \$5.6 obligated in 1947).
- **Industrial Planning.** Allocation of \$4.5 million—the same as for the current fiscal year, but markedly below the \$11.7 million obligated during the 1947 fiscal year—is recommended.
- **Aircraft Material.** The \$16 million requested for maintenance material for aircraft is substantially above the \$10.9 million allowed for the current year, below the \$23.9 million obligated in the 1947 fiscal year. Modernization of equipment in service is allotted \$15 million, compared with \$10 million this year, \$16.8 million in 1947.

- **Salaries.** A reduction in procurement personnel and an increase in operational personnel stationed at depots and stations is indicated by the \$7.8 million recommended for procurement salaries (\$8.9 million was allowed for this year; \$11.1 million in 1947) and the \$280 million proposed for operational personnel salaries (only \$273 million was provided for this year).

Fuel and oil for aircraft appropriation of \$131 million is recommended, a substantial jump from this year's allocation of \$115 million, and the 1947 allocation of \$53 million, partially due to price rises.

- **Equipment.** A total of \$33 million is provided for miscellaneous USAF equipment, including \$2 million for photographic supplies (\$1.5 million allowed for the current year, \$7.8 million in 1947) and \$3.1 million for maps (\$2.8 million provided for current year).
  - **Pilot Tuition.** A \$1 million allocation is made for pilot tuition; \$3.5 million for other education and training.
  - **Medical Research** is allocated \$2.3 million, compared with \$900,000 for the current year; service test research is provided \$8.3 million, compared with \$6.7 million this year; and meteorological research is allocated \$4.5 million, compared with \$3.3 million this year.
- In addition to a \$75 million research and development program and a greatly accelerated plane procurement program, the President's budget contemplates the following allocations for naval aviation.
- **Operations.** A total of \$262 million for operations of the regular Navy, including \$81 million for maintenance of stations, \$105 million for the overhaul of aircraft, and \$76 million for the

operation of aircraft, is proposed. This is a slight increase over the current year appropriation of \$259 million, which provided \$90 million for maintenance of stations, \$106 million for aircraft overhaul, and \$62 million for aircraft operations.

- **Naval Reserve.** A stepped-up naval aviation reserve program is indicated by the \$64 million earmarked for operational activities. This includes \$6 million for maintenance of stations, \$26 million for the operation of aircraft, and \$32 million for aircraft overhaul. Current year allocation totaled \$40 million—\$6 million for maintenance of stations, \$16 million for operations of aircraft, and \$17 million for aircraft overhaul.

Highlight of the President's proposed CAA budget was its recommendation for increased funds for air safety facilities and airport construction.

The \$23 million requested for the establishment of new air navigation facilities is more than double the \$11 million available this year. After much clamoring over the need for improved air safety, Congress slashed the President's request for \$36 million for this year's air navigation facilities program to \$11 million.

The \$40 million proposed for coming-year airport construction—\$32.5 million was appropriated for this year—the President stated, will make it possible for CAA "to make grants only for the most urgent projects."

The President's budget also contemplates CAA allocations of: \$87 million for salaries and expenses (\$72 million appropriated this year), including \$66 million for operation of the federal airways (\$55 million appropriated this year), \$11 million for enforcement of safety regulations (\$9 million appropriated this year), and \$2.5 million for the operation of aircraft (\$3.2 million appropriated for this year); \$2 million for technical development (\$1.6 million allowed for this year); and \$1,185,000 for the Washington National Airport (\$1,102,500 appropriated for this year).

### Plan ATC Reunion

Air Transport Command personnel who served in 1942-45 will meet again at a stag reunion dinner of former officers at the Starlight Roof of the Waldorf-Astoria Hotel, N. Y., at 6:30 p.m. Feb. 13, 1948.

In addition to Air Force Generals Hoyt S. Vandenberg and Robert M. Harper, present ATC commander, guests will include Gen. H. L. George, wartime ATC chief, C. R. Smith, Harold Harris, Larry Fritz, Ray Ireland.

Former ATC officers eligible to attend are urged to contact Fred Atkinson at 4 West 43 St., N. Y.

## Bigger Air Force is Prime Need For U. S. Survival—Policy Report

President's Commission calls for 70-group striking force backed by 8,100 reserve planes and modern naval aviation; procurement needs detailed.

By ALEXANDER MCSURELY

Immediate procurement action to build up the currently dwindling U. S. Air Force to a powerful 70-group striking arm, and to maintain the Navy Air Force with modern equipment at its present strength is strongly urged as a primary objective of the President's Air Policy Commission Report.

Chairman Thomas K. Finletter and his four colleagues last week reported to President Truman and the nation that such an Air Force and Navy air arm must be the main reliance of the U. S. against a possible atomic attack on this country, which could be expected anytime after Jan. 1, 1953.

► **Healthy Industry**—Enlarged procurement contracts necessary to carry out these recommendations will be sufficient to keep the U. S. aircraft industry in a healthy condition (another requirement for an adequate national defense), assuming the contracts are wisely distributed. The Commission asks for long-range procurement planning and control to effect such a distribution.

Recommended is an Air Force of 12,400 planes, divided in 70 groups and 22 special squadrons. Supplementing this first-line force are to be 27 National Guard groups and 34 Air Reserve groups. Commission asks that the 70-group force of regulars be ready for service by Jan. 1, 1950, two years before the estimated deadline, when other powers may be expected to be ready for atomic warfare. An additional reserve force of 8,100 planes for war loss replacements is asked to be ready for use by the end of 1952. These recommendations coincided with Air Force estimates of its minimum requirements for adequate air defense.

► **Naval Status Quo**—Naval Air Force should be maintained at approximately its present strength in planes (5,793 first line planes with about 5,100 in reserve) with immediate increase in Navy aircraft procurement contracts to supply more modern replacements for World War II planes now in service, or in reserve. Commission recommended deferring decision on proposal to increase naval air arm to 8,000 first line planes and 6,500 planes in support, pending statement of integrated defense requirements by joint chiefs of staff.

These recommendations were reduced from the Navy's request for a 14,000-plane force.

Placing orders for military planes for delivery over a five-year period whenever possible is asked with a review of procurement planning at least annually, to revise requirements.

Commission proposes that Congress make appropriation of aircraft procurement money to be disbursed in the current fiscal year and give the Military Establishment forward contract authorization for deliveries over the following five fiscal years.

Analysis of Air Force budget increase recommendations shows:

- **\$350,000,000 more for aircraft** procurement in calendar year 1948 than present procurement rate (\$550,000,000 for fiscal year 1947-48).
- **Further increase of \$660,000,000** for 1949 calendar year aircraft procurement over total recommended for 1948.
- **Of 1949 proposed appropriation,** \$300,000,000 would go for first planes in the 8,100-plane reserve. (Total cost of the 8,100 is estimated at about \$6,000,000,000 to \$7,000,000,000, with an additional expenditure of around \$2,000,000,000 a year to keep the reserve up to date.)
- **Total Air Force budgets** of \$4,150,000,000 for calendar 1948, and \$5,450,000,000 for calendar 1949 are recommended, with a complete review of Military Establishment and world conditions as of Jan. 1, 1950. (Unless world conditions change radically, meanwhile, Commission expects review will probably cause increase of defense requirements, as of that date.)
- **Trend of Air Force appropriations** for 1950, 1951 and 1952 should continue to rise, subject to 1950 review findings, at an increase rate indicated in a chart as averaging \$1,600,000,000 a year.
- **Recommended 1948 procurement** would purchase 9,000,000 more airframe pounds than present rate of Air Force procurement, while 1949 recommended procurement would be approximately 16,000,000 pounds more than that recommended for 1948.

Commission reports that maintaining Navy Air Force at present strength will require immediate increase in procurement contracts which are currently

at the rate of \$338,000,000 a year, in order to replace World War II planes now in service.

Navy aircraft procurement increase recommendations call for:

- **Boosting procurement** for 1948 calendar year \$192,000,000 over the current rate, or total procurement of \$530,000,000.
- **Further procurement increase** of \$310,000,000 for 1949 calendar year, over the 1948 recommendation, or total 1949 procurement of \$840,000,000.

- **Increase in 1948 procurement** would represent 4,000,000 airframe pounds more than current procurement rate, while 1949 procurement increase would raise the 1948 recommended level by 6,000,000 pounds more.

Industrial mobilization should be given attention at an administrative level comparable to research, development and procurement, the Commission urges, with the Secretary of Commerce and a proposed new officer, the Secretary of Civil Aviation, taking active part in co-ordinating on an equal level with National Defense, Air Force, Army and Navy departments.

Procurement administration to provide incentives for design of superior aircraft, readily producible, at lowest cost, with maintenance of expansibility potential is asked. Procurement posts in the Air Force should be given to career officers with specialized industrial training rather than rotated among combat officers. The Commission questions whether civilian procurement officers can be paid enough by government to attract the caliber of men needed.

► **Company Quotas**—Each company producing military aircraft should have at least one type in production, one in development, and one in design stage to assure reasonable continuity. Companies failing to develop successful planes or to produce at competitive costs will eliminate themselves while encouragement should be given to new groups with promising designs, to demonstrate their ability as producers.

Enactment of H.R. 1366 and H.R. 5031 (both passed by House of Representatives in Eightieth Congress) is recommended to implement proposed revisions in procurement. H.R. 1366 calls for aircraft procurement by negotiation when competition is impracticable or under other stated conditions. H.R. 5031 repeals part of the Vinson-Trammell act of 1934, deleting requirement that 10 percent of naval aircraft and engines be made in government plants and removing profit limitations of 10 and 12 percent respectively for naval ships and naval and Air Force plane contracts. However, Commission states that this bill is not recommended until a substitute bill is enacted, protecting the government against excess



profits by renegotiation or otherwise.

► **Indorse ACC Report**—Previous recommendations of the Air Coordinating Committee are indorsed by the Commission, for a 16,000,000-sq. ft. reserve of airframe plant area and 10,000,000 sq. ft. of aircraft engine plant area, and a minimum reserve of 65,000 general purpose machine tools. Report urges that any future aircraft plant expansion should avoid further concentration in already highly congested industrial areas.

As normal procedure, production contracts should be given to the manufacturer who developed the original design, the Commission states. However, wherever such a production order would overload his facilities the contracting service should require him to sub-contract part of the new contract, or equivalent man hours on a previous contract, to other manufacturers. Such sub-contract could involve parts or complete aircraft. If placing of the contract with the developing company causes too much concentration in one producing area, the contracting service should place it elsewhere, but arrange with the developing company to supply engineering service.

Planning to place one model of each basic type of aircraft in production in a reserve plant in an emergency is called for. This planning should include preparing shop drawings, operation sheets, bills of materials, work orders, and designs of jigs, fixtures and special tooling, with continual revisions to keep all these items up to date.

Four steps deemed necessary to implement industrial planning are:

- **Preparation by the Military Establishment** of a mobilization budget, annually, showing appropriations and forward contract authorization necessary, if mobilization is required in that fiscal year.

- **Authorization of such budget annually** by Congress, without appropriation.

- **Establishment of an Office of War Mobilization**, with necessary control offices for materials, production, machine tools, and other capital goods, ready for activation on declaration of a national emergency.

- **Immediate action by Congress** in event of emergency, to vote appropriations to activate the mobilization budget.

These steps it is believed will eliminate some of the "hasty and costly improvisations" of World War II.

out its programs as their individual promise fluctuates from month-to-month. An additional benefit of this plan would be its improvement in the current low appeal of research to top scientists because of its erratic, short-term nature. In addition, the Commission suggests a revolving fund for the construction of special research facilities needed suddenly in the middle of a fiscal year.

► **Liberal Cost Plea**—A plea for more liberal cost allowance policies in research contracts with the aircraft industry is voiced by the report. This would provide an incentive for industry participation in these programs.

Such a policy would permit the inclusion of many items of general overhead and management expenses as legitimate costs which are now disallowed on research contracts. It would also permit the inclusion of research costs on development and procurement contracts, which are presently disallowed and which are, therefore, held to a minimum by the industry.

► **NACA Boost**—The Commission urgently recommends a strengthening of the National Advisory Committee for Aeronautics as the principal research coordinating agency of the government. Its broad and highly effective technical committee and sub-committee organization is equipped to provide expert guidance for the planning and coordination of research programs and the Commission urges other government agencies engaged in aeronautical research to seek NACA advice in initial stages of a new program. To increase NACA effectiveness, additional funds for personnel, travel and other purposes in connection with research coordination are recommended.

This NACA coordination should also be extended into the growing field of university research, in which Air Force, Bureau of Aeronautics, Army Ordnance and numerous other agencies are heavily engaged but without sufficient coordination to insure maximum productivity. The Commission feels that NACA should take the lead in the contracting and coordination of university research work, which should be expanded to its fullest capacity to more completely utilize the available scientific personnel of the nation centered largely in educational institutions. The Commission warns, however, that research cannot and must not be controlled under the guise of coordination or it will lose much of its defined value.

► **Supersonic Tunnels**—Convinced that a dangerous shortage of transonic and supersonic wind tunnel research facilities exists, the Commission believes that the NACA National Supersonic Research Center, now under consideration by the Research and Development

Board, must be authorized and installed as quickly as possible. In addition, the NACA "National program of Transonic and Supersonic Wind Tunnels," the so-called "Unitary Plan," which includes provisions for 16 small wind tunnels suitable for university construction and operation, should be activated and completed without delay. The "Unitary Plan" embraces an entirely new NACA research facility located in the west where electric power is cheap and abundant, although the exact site has not yet been selected. The facility would include a number of supersonic wind tunnels larger than any of those now in existence (including the NACA 6 ft. by 8 ft. Mach number 1.8 tunnel now nearing completion at the Cleveland laboratory).

► **Giant Tunnel**—Also recommended is the Air Force Air Engineering Development Center, a super-Wright Field, also to be located in the west adjacent to huge power sources. This facility includes a monster transonic wind tunnel 40 ft. by 40 ft. (more than 33 TIMES as large as any now in existence) which would cost \$140,000,000 and require 500,000 horsepower for its operation. Commission advocates execution of the Unitary Plan, quickly and

in whatever order determined by the Research and Development Board, headed by Dr. Vannevar Bush.

Solution to the pressing problem of research personnel can be found by extending the university research program, lifting the present \$10,000 maximum government salary ceiling, improvement in laboratory housing and recreational facilities for scientists and their families, abolition of the service personnel rotation policies and the encouragement of service personnel in scientific studies at technical schools and the pursuit of specialized scientific careers within the services.

The Commission offers a number of suggestions concerning additional research projects and desirable changes in current programs including:

- **Helicopters**—Under the direction of the NACA, continuous research and development of the helicopter should be pressed and all possible applications of the helicopter thoroughly explored.

- **Lighter-Than-Air**—The Navy should continue the research and development of radar and submarine detection equipment for nonrigid airships. The large rigid airship has little military use and there is virtually no need for government subsidy in this field.

- **Power Plants**—Research and development on gas turbine and rocket engines must be pursued diligently but the piston engine should not be abandoned until its potential is completely exhausted. Atomic energy, electronics and guided missiles were also cited.

## Santa Fe Skyway Quits Airfreight Operations

Santa Fe Skyway, Inc., subsidiary of the Santa Fe Railway, has decided to abandon its extensive airfreight operations in the near future. The company has been operating between California and New York as a contract carrier since July, 1946. Equipment included three DC-3s and four DC-4s.

President H. R. Lake said the decision to cease operations was made as a result of the "obviously unfriendly attitude of the Civil Aeronautics Board toward Santa Fe and other surface carriers." The Board last month denied Santa Fe a letter of registration which would have permitted it to fly as a common carrier (under section 292.5 of the Economic Regulations) pending CAB action on its request for a certificate of public convenience and necessity (AVIATION WEEK, Dec. 29).

## Research Personnel, Fund Boost Urged by Air Policy Group

Larger role for NACA recommended by Presidential commission; lack of trained scientific personnel pointed out as biggest research bottleneck.

By ROBERT McLARREN

Increased levels of aeronautical research in atomic energy, supersonic aerodynamics, guided missiles and landing aids are recommended by the President's Air Policy Commission. While such an expanded program will require greatly increased appropriations, the Commission points out that a shortage of skilled scientific personnel is the major deterrent to such an expansion. Several solutions to this problem are offered.

The Commission favors the maintenance of the present governmental agency structure with scientific research being performed by the National Advisory Committee for Aeronautics and the development of aeronautical devices the province of the Air Force and the Bureau of Aeronautics through procurement contracts with the aircraft industry. Because our national security is keyed directly to the state of our aeronautical knowledge, the Committee favors control of aircraft and missile development by the military. It finds

no fault with the fact that 99 percent of aeronautical research and development funds are allocated to the military and believes that coordination of this huge program (amounting to \$311,908,000 for the current fiscal year) can be achieved satisfactorily by the Research and Development Board within the National Military Establishment.

► **Overhaul Budgets**—The Commission recommends an overhauling of research budgeting practice by permitting research agencies to request and receive annual lump sums for aeronautical research purposes which are not otherwise broken down into specific categories. In addition, these agencies should be the subject of special legislation granting contractual authorization to cover a five-year period, thereby enabling the long-term planning of special research projects.

These provisions would accommodate much of the unpredictable nature of scientific research by permitting an agency to redistribute funds through-

## Senate Group Stymies Gen. Kuter

President's choice for CAB chairman pigeon-holed by Armed Services Committee.

Unexpected opposition to the designation of Maj. Gen. Laurence S. Kuter as CAB chairman and highest paid member of the Board developed in Congress last week when the Senate Armed Services Committee unanimously decided to pigeon-hole special enabling legislation proposed by President Truman.

In announcing his selection of Kuter, the President had sent the Senate and House of Representatives the draft of a bill authorizing appointment of the 42-year-old general as a member of CAB "without affecting his military status and perquisites.

► **Proposed Bill**—The proposed bill provided that Kuter would continue to receive his military pay and allowances—totaling \$15,500 annually—while serving on CAB. The Department of the Air Force would have been reimbursed for Kuter's salary by CAB appropriations.

Opposition to the President's request was on two grounds. The Committee informed the White House it could not approve legislation which tended to: 1. encourage appointment of military personnel to civilian jobs; and 2. by-pass the federal salary ceilings.

President Truman's nominee to suc-

ceed James M. Landis had received warm indorsement in the air transport industry. Consensus was that Gen. Kuter, who is now U. S. representative to the International Civil Aviation Organization, is completely capable of handling the new job and that his appointment would be doubly acceptable since it is non-political.

► **Finletter Sought**—Gen. Kuter was



KUTER (Press Assn)

not the first choice as successor to Landis. Strenuous attempts were made to induce Thomas K. Finletter, chairman of the President's Air Policy Commission, to take the post. Finletter rejected it. Stanton Griffis, backed by the Commerce Dept., was also in line for the job at one time, but heavy opposition quickly developed. Big fear—and one not without justification—was that President Truman would appoint a party wheel-horse to CAB since capable men are not inclined to accept a \$10,000-a-year post.

Air Transport Association President Emory S. Land hailed Kuter as an "excellent choice." Land said he had seen Kuter in action during the international conferences at Yalta and Malta and had formed a very high opinion of the general's ability. Both State and Commerce Department officials were pleased by the Kuter selection. The general has worked closely with the State Department in the past.

► **Wallace-Taylor Criticism**—Sen. Glen Taylor (D., Idaho), prominently mentioned as a running mate for Henry A. Wallace, declared he would oppose Kuter's appointment even if the general stepped out of uniform and surrendered all his military perquisites. "He is still a military man with the West Point complex," Taylor told AVIATION WEEK.

Kuter said in Montreal he will not resign from the Army to become chairman of the Civil Aeronautics Board.



## INDUSTRY OBSERVER

► National Advisory Committee for Aeronautics is experimenting with simulated aircraft nose section ejection supersonic speed through the use of rocket-powered research missiles at the NACA installation on Wallops Island, Va. Models of detachable nose compartments, similar to those used on the Douglas D-558-1 and D-558-2, are freed at supersonic speed and their free-flight action studied by motion pictures and radar tracking. Object of the research program is to develop a detachable nose section as nearly stable in free-flight as is practical under considerations of the form required for the entire aircraft.

► Boeing XB-47 Stratojet has made 29 test flights aggregating 8 hr. 16 min. since Dec. 17 initial flight. Boeing has asked Air Force for 60-day extension on use of Moses Lake test base to complete company tests. Original 30-day period expired Jan. 17.

► Douglas Aircraft Co. has received an order from the Air Force for ten C-118 military transport versions of the DC-6.

► Watch for a general boost in air cargo rates due principally to the rising price of aviation gas and oil. Uncertificated freight carriers have wanted the boost for some time but have delayed action because of low rates instituted by their certificated competitors. Current CAB studies of operating costs may result in Board action to force certificated airlines' cargo rates upward. Boost will still be far below the 40 percent post-war rise in railroad freight rates.

► Guided missile research is taking about one-fourth of all military research funds—about \$75,000,000 annually. President's Air Policy Commission report confirms earlier inklings that guided missile production will have to wait on further research progress. Indications are that all tactical missiles will operate at supersonic speeds but subsonic missiles will continue in use principally as testing vehicles for control devices planned for supersonic missiles.

► Landgraf Helicopter Co. reports satisfactory flight tests on its model H-2 being built for the Air Force. It is a single seater, twin rotor model weighing 850 lb. and powered by a Pobjoy radial engine.

► Northrop's second YB-49 flying wing jet bomber was flown from the factory field, near Los Angeles, to Muric air base last week. While the takeoff weight of the airplane, having a design gross exceeding 200,000 lb., was not given, the takeoff performance was spectacular even at its probable light loading. The plane was off the runway at 3,000 ft. and had gained an altitude of between 500 and 600 ft. at the 5,000-ft. terminus of the runway strip. It is the second of two experimental planes ordered by Army as jet versions of the XB-35. Of the latter 13 are on order and are in production.

► Convair is withdrawing its price of \$360,000 on the Convairliner pending a survey of increased production costs. The \$360,000 price tag was set last fall. Convair definitely plans to continue production of the transport which is vying with the Martin 202 as the principal post-war twin-engine airline transport.

► Chance Vought's move to the former North American plant at Grand Prairie, Tex., will not take place until after its F4U production contract is completed, probably next fall. Production in the Texas plant will begin on jet types. Glen L. Martin Co. which was studying a possible move of some of its facilities to the North American plant has decided against the move.

► British Overseas Airways Corp. expects deliveries on its order for six Boeing Stratocruisers to begin in August, 1948. Ministry of Civil Aviation officials state that they are satisfied that the planes can be operated at a profit and do not agree with British critics that the Stratocruiser purchase was a blunder.

► British South American Airways is currently operating three Avro Tudor IV, ten Avro York and two Avro Lancastrian transports in passenger service. British European Airways is still operating the ten Junkers JU-52 trimotor transports. The latter division plans a reduction of 2,500 employees.

► Third De Havilland DH-108 has been test flown. It is equipped with automatic slots; the second craft has fixed, full-span slots for low-speed research.

### National Guard to Base At Westchester Airport

Government reappearance in the Westchester County Airport (Rye, N. Y.) picture was indicated recently when Col. Erickson S. Nickols, commander of the 52nd Fighter Wing of the Air National Guard, announced plans to make the airport the center of the National Guard air defense network for the New York area. Units attached to the field will have 79 officers, 665 men and about 35 airplanes.

Originally built by the Air Force to guard the metropolitan New York area, the airport was abandoned in 1943 (AVIATION WEEK, Oct. 13, 1947) and turned over to the county. It is now on a 15 year lease to the North American Airport Corp. (owned by Gulf Refining Co.), which operates flight and ground schools, repair shops, and sales agencies for private planes. An ILS system was installed. Bids were received from major airlines to use the field as a provisional airport in the event of adverse weather conditions at LaGuardia and Newark.

## AVIATION CALENDAR

Jan. 19-21—Air Coordinating Committee—aircraft industry meeting, Los Angeles.  
Jan. 20—AIA export committee, Bendix Aviation plant, Baltimore.  
Jan. 22—AIA airworthiness requirements committee, Hollywood Roosevelt Hotel, Hollywood, Calif.  
Jan. 22-23—AIA western regional traffic committee, AIA office, Los Angeles.  
Jan. 26—AIA aircraft technical committee, AIA office, Los Angeles.  
Jan. 28—AIA patent committee, Manufacturers Aircraft Association office, 30 Rockefeller Plaza, New York.  
Jan. 28—AIA Personal Aircraft Council, Hotel Statler, Washington.  
Jan. 29—AIA Aircraft Manufacturers Council, eastern regional executive committee, Wings Club, New York.  
Feb. 5—American Legion national aeronautical conference, Wright Field.  
Feb. 6-7—American Legion national aeronautical conference, Indianapolis.  
Feb. 13—Air Transport Command reunion, Waldorf Astoria, New York.  
Feb. 16-17—Second annual Purdue Airport and Fixed Base Conference, Purdue University, West Lafayette, Ind.  
Feb. 17-19—ATA meteorological committee, Peabody Hotel, Memphis.  
Feb. 26-27—Louisiana Aviation Conference, Shreveport.  
Apr. 28-30—American Institute of Electrical Engineers, northeastern district meeting, New Haven, Conn.  
June 1—ICAO second assembly, Palais Des Nations, Geneva, Switzerland.  
June 21-25—American Institute of Electrical Engineers, summer general meeting, Mexico City.  
July 31—International Air Exposition, Idlewild Airport, New York.  
Aug. 24-27—American Institute of Electrical Engineers, Pacific general meeting, Spokane, Wash.  
Sept. 2—International Aeronautic Federation, Cleveland.  
Sept. 4-6—National Air Races, Cleveland.  
Oct. 5-7—American Institute of Electrical Engineers, middle eastern district meeting, Washington.  
Oct. 18-22—American Institute of Electrical Engineers, midwest general meeting, Milwaukee.  
Nov. 3-5—American Institute of Electrical Engineers, southern district meeting, Birmingham.

## ENGINEERING & PRODUCTION

### Exports of Aircraft and Engines Seen Reaching Post-War Peak

Despite the sharp increase in U. S. exports in 1947, the great jump in British foreign shipments indicates an even hotter race this year for world markets.

By WILLIAM KROGER

Export activity of U. S. aircraft and engine manufacturers in 1947, on the basis of figures for the first 10 months, likely hit a post-war high—with the main gains recorded in shipment of engines and personal aircraft.

Piecing together statistics of the Aircraft Industries Association and Bureau of the Census, it appears probable that aircraft deliveries abroad for the entire year totaled about 3,000 (including personal aircraft), and engine shipments were close to 4,000. In 1946, export shipments of aircraft were 2,302, and of engines 2,490.

Value of aircraft exports for the year is not expected to exceed greatly the 1946 figure of \$65,300,000, but value of engines exported should be in the neighborhood of \$18,000,000, compared to \$11,800,000 for 1946.

Shipments out of the country of personal planes totaled 1,552 at the end of November, as against 1,224 for the full year of 1946, with the value in the 11 months of 1947, \$6,021,290, which is already far ahead of the 1946 figure of \$2,898,760.

The actual 10-month figures in 1946 for all aircraft and engines were: aircraft, 2,725, valued at \$55,900,000; and engines, 3,554, valued at \$15,800,000. October showed a slight gain over September in numbers for both aircraft and engines, while the value of aircraft exported in October dropped, and value of engines increased considerably. The dollar-volume drop in aircraft for September, which occurred even though unit shipments were rising, was due to a sharp pick-up in the numbers of two- and three-place aircraft that were being exported.

► **British Gain**—Although, as has been previously reported, U. S. aviation exports fluctuate widely from month to month and show no clear pattern because of the foreign dollar situation, a possibly significant fact is that in October British aircraft exports also rose totaling approximately \$6,947,140, a year's high in monthly value.

still above the monthly average for the year of 13.2 percent.

► **U. S. Edge**—It is in the foreign sale of lightplanes that the U. S. definitely has an edge over Britain in export potential. Although few British personal-type aircraft are being produced for the home market, there are still hardly enough of them available for export to cause serious concern to competitors in the United States.

The transport situation is another matter. Britain has been exerting strenuous efforts in this regard and the October figures would appear to offer some clue to results. It is generally acknowledged that U. S. transport manufacturers must boost export sales to break even on new designs and that the dollar shortage has been even a greater handicap to them than to the producers of personal planes.

► **Policy Recommendation**—Depending upon how strongly it is followed up, there may be some degree of relief stemming from the recommendation of the President's Air Policy Commission that the Export-Import Bank relax some of its regulations. The Commission points out that the Bank now requires the manufacturer to assume "up to 25 percent of the credit risk." (Actually, in some cases it is reported that the manufacturers' participation has been placed higher.) The Commission further states that participation to this extent in the risk is beyond the financial means of most manufacturers, and declared "We believe the Bank should be authorized to assume a larger share of the credit risk."

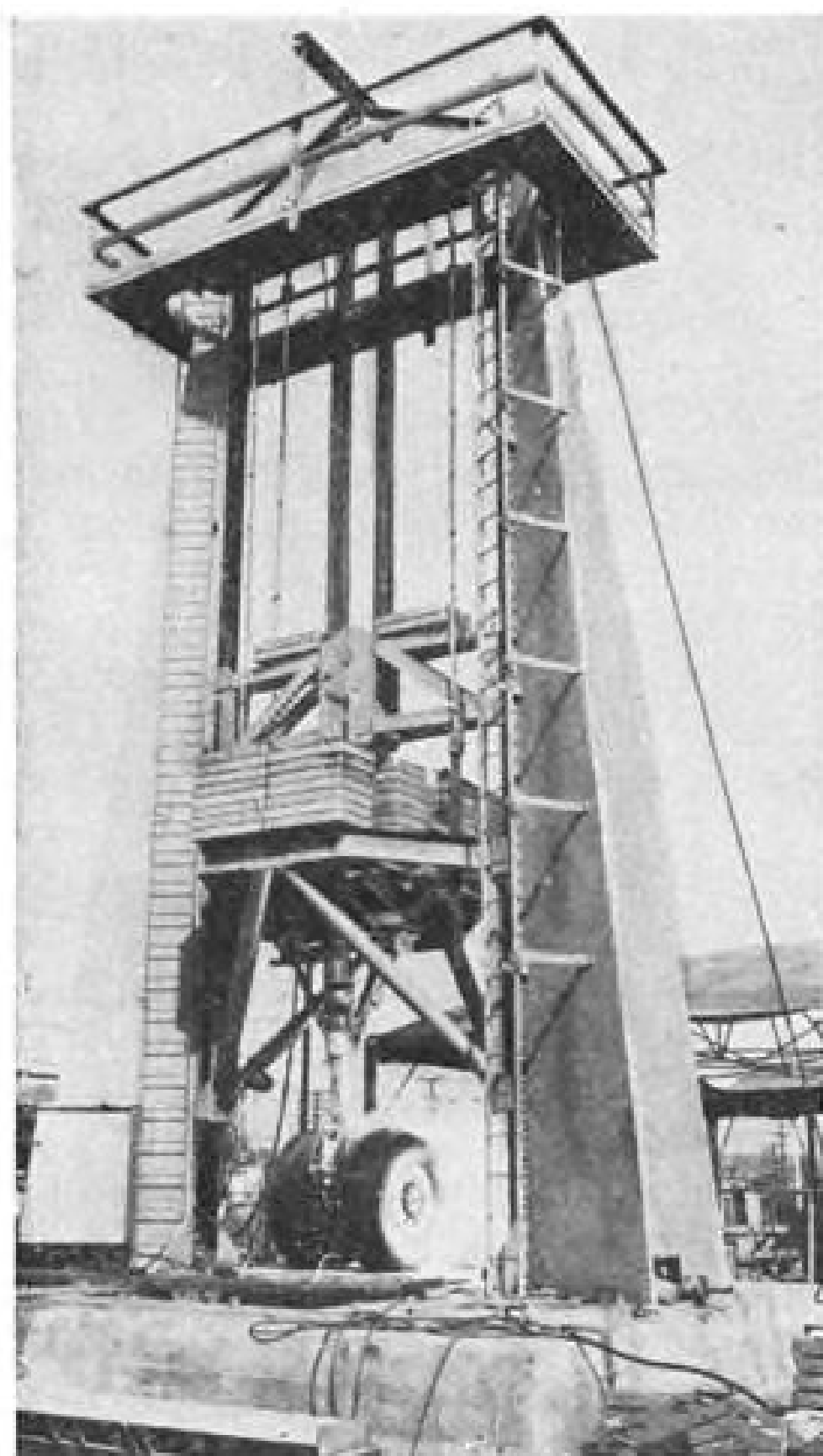
Since the degree of participation is a matter of the Bank's own policy and not of statute, the Commission's recommendation could easily be translated into practice if the President chose to follow his group's suggestion.



24-PASSENGER HELICOPTER

Artist's drawing of the W. 11 "Air Horse" of the Cierva Autogiro company, which is expected to make its test flight this Spring. Designed to be Britain's first freight-carrying rotorcraft, its three rotors will be driven by a Merlin 1,640-hp. engine. It is estimated the W. 11 will carry three tons of cargo or 24 passengers at a cruising speed of 116 mph. for 232 mi. Claimed top speed is 154 mph. (British Combine Photo)





#### DROP TEST RIG

Towering 40-ft. high drop test rig Lockheed Aircraft uses to test the landing gear of the mammoth Constitution and of the Navy Neptune patrol bomber. A rig of new design, the company claims it duplicates in almost every respect actual landing conditions. Wheels are pre-rotated before the drop and this permits a wider variety of tests than on usual drop rigs which are mainly for obtaining readings of the shock absorbing qualities of the landing gear struts.

### Donald Douglas, Jr., Moves Up in Company

Donald W. Douglas, Jr., has been appointed director of contract requirements of the Douglas Aircraft Co., succeeding Karl P. Grube. Douglas will continue as director of the testing division in addition to his new duties.

Douglas joined the company in October, 1939, and for six months worked with the strength group of the engineering division. He was later transferred to the DC-3 project where he specialized in power plant installation. In 1943 he was appointed director of the testing division and supervised flight test operations on the SBD Dauntless, and other military types. Type certification tests on the post-war DC-4 and DC-6, and qualification testing of the D-558 were also conducted under his direction.

In other personnel actions:

► **Boeing Airplane Co.** appointed Robert H. Jewett, formerly chief of preliminary design, as chief project engineer—pilotless aircraft. Succeeding Jewett as chief of preliminary design is George C. Martin, formerly project engineer for the new Boeing XB-47, which is now undergoing flight tests. Robert

Plath, an eleven-year veteran of the Boeing engineering division, has been named acting project engineer for the XB-47.

► **General Electric Co.** appointed F. K. McCune, assistant to the general manager of the Apparatus Department. He will assist the general manager on administration and organization matters. McCune joined the company in 1928 as a student engineer on the company's test course. At Pittsfield, Mass., Theodore F. Nessler was appointed to a newly created position of purchasing manager for the Chemical Department. For the past eight years Nessler has been in charge of purchasing chemicals, castings, and factory and foundry supplies for the company.

► **Republic Aviation Corp.** appointed Louis W. Davis, assistant director of public relations, succeeding C. D. Johnston who has returned to the Minnesota Highway Department, from which he has been on leave of absence. Davis was formerly assistant to the general manager of Fairchild's Personal Plane Division at Winfield, Kan.

### Air Associates Closes Three Branch Offices

Air Associates, Inc., will close its branches at Atlanta, Kansas City, and Seattle, and concentrate activities at Teterboro, Chicago, Dallas and Los Angeles, it is disclosed in the company's annual report. The former branch territories will be served more economically from the older branches without sacrificing efficiency, the company states.

Despite the general curtailment in the aircraft building and maintenance program, Air Associates reports that the volume of business in the year ending Sept. 30 was maintained at a higher level than in the previous year. Sales totaled \$6,663,519 compared with \$5,261,880 recorded for the fiscal year ended Sept. 30, 1946. After application

of a tax carry-back credit in the amount of \$272,161, the net loss for the current year amounted to \$280,944. This result compares with a net profit for the previous year of \$102,686 after a tax credit of \$398,984.

The company's operating loss for the year, before application of the tax credit, amounted to \$553,105. A substantial portion of this amount (\$470,000) was attributable to the loss sustained in the development and production of advanced type VHF transmitters under government contract on a fixed price basis, and to the necessity for relatively large inventory writedowns on several overstocked lines of merchandise.

One quarterly dividend of \$.20 per share and one of \$.10 per share, aggregating \$.30 per share or \$40,471.50 were paid during the year. In view of the unfavorable operating results disclosed during the second half of the year, and a provision in the bank loan agreement which limits payment of dividends (other than stock dividends), and other distributions of cash or property to stockholders, to net profits accumulated subsequent to Sept. 30, 1946, the directors voted to omit further dividend payments.

Air Associates has undertaken a number of development projects for the government in the field of aviation and military electronics, for the purposes of increasing its immediate sales potentialities and, ultimately, its manufacturing activities, through the possible award of production contracts for the prototypes engineered and designed by the company.

## BRIEFING PRODUCTION NEWS

**Republic Aviation Corp.** Employment is now slightly under 6,000, with no sizable increase anticipated. P-84 production continues at a rate of one-plus per day, with number 150 nearing the end of the line.

**Bell Aircraft Corp.** has begun deliveries of its motorized wheel-barrow. Named the "Prime Mover" by the company, it has three wheels and a small motor and is reported to carry 1,000 lb. of material. It is about 6 ft. long, 3 ft. wide and 3 ft. high.

**Piasecki Helicopter Corp.** employment is in excess of 1,000, with further increases planned. Company has expanded more than 200 percent in each of the past several years. Production is now under way for the Navy on the HRP-1 Rescuer, tandem, twin-rotor transport helicopter.

**Solar Aircraft Co.** sales for the first six months of its current fiscal year, ending Oct. 31, 1947, totaled \$7,207,074, from which it realized profit of \$395,147. This indicates a satisfactory record for the full year as receipts for the entire preceding fiscal year amounted to \$11,410,969.

**Jack & Heintz Precision Industries** has produced its one millionth fractional horsepower motor since entering this field in May, 1946. Output in 1947 totaled 885,946, as against 102,697 for seven months of 1946.

**Ohio Crankshaft Co.** has purchased the Induction Heating Division of Budd Co., and it will be operated by Ohio's Tocco Division, which also builds equipment for induction heat treating of metals.

**Brown Instrument Co.** has established sales and service offices in Denver and Salt Lake City. Denver address is 400 Broadway, and Salt Lake office is at 437 Atlas Building, 36½ West Second South.

### DuPont Begins Direct Sales of Tetraethyl

While ending a long-standing agreement with Ethyl Corp. and beginning direct marketing to the oil refining industry of tetraethyl lead, du Pont will continue its intensive research on the tetraethyl lead process, the company says. This program includes stepped-up research in the whole combustion field as well as full technical, operating and advisory services to the refining industry.

The company has maintained for several years a petroleum chemicals laboratory at Deepwater Point, N. J., which has studied lubrication and fuel stabilizing problems. Large scale operations in a second laboratory unit are under way for the study of engine and fuel performance, and these activities will be expanded still further.

District laboratories will be divided into two sections, knock-test and gasoline inspection. These labs will be service centers for technical assistance to the refiners, and will offer to help oil companies that need added laboratory facilities for specific problems.

The company has been making tetraethyl lead compounds (marketed through Ethyl) for 24 years and has been responsible for much of the development of equipment and manufacturing processes. With this industrial "know-how" is now combined greatly expanded and fully equipped sales offices and laboratories, and well trained technical and engineering staffs.

Five district offices have been established: West Coast at Los Angeles; Gulf Coast at Houston, Tex.; Mid-Continent Area at Tulsa, Okla.; Chicago District

at Chicago; and East Coast at Wilmington, Del. Ray E. Miller, formerly a vice president of the Warren Petroleum Corp., Tulsa, is sales director for petroleum additives, with Emory M. Fanning as sales manager.

### Hoppi-Copter Stock Sale To Finance Production

Stockholders of Hoppi-Copter, Inc., Seattle, Wash., have authorized an application to the SEC for the registration of 300,000 shares of stock to be offered for sale to the public to finance commercial production of the company's one-man helicopter. The company has named Crawford Goodwin Co. of Seattle as its underwriter.

Price of the stock has not yet been determined. The company, capitalized at \$100,000, recently reduced the par value of its outstanding shares from \$1 to 10 cents, exchanging six new shares for one of the old and leaving 400,000 shares in the treasury.

Original financing was intended to make possible the production and testing of three experimental models. These three models have been completed, one has undergone about 10 hours of flight tests and the other two are just beginning flight test, according to Horace Pentecost, president of the firm and inventor of the Hoppi-Copter.

The two newest models are slightly lighter than the original, and have a more powerful engine, 40 hp. as compared to 35. One has a rotor diameter of 16½ ft., the other of 17 ft., as compared to 16 on the earlier model.

The three models will make possible a much more extensive flight test program, Pentecost said. Kermit Jones, for-

merly with Central Helicopters of Seattle, has been secured as a second test pilot, to work with Maurice Ramme, who has flown all previous tests.

### Bearing Engineering Firm

A new organization known as Dale Bearings, Inc. has been formed in New York to specialize in the engineered application and sale of anti-friction bearings. The company will operate primarily as an engineering firm specializing in anti-friction installations of the products of several nationally known manufacturers.

President of the new company is Clayton A. Decker, a veteran of more than 30 years in the bearing field. William B. Ashland, another 30 year man, is vice president. Richard A. Laitinen has been named as secretary and treasurer. Both Decker and Ashland have been associated with SKF Industries, Inc., in the New York area.

Dale Bearings will distribute ball and roller bearings and anti-friction products manufactured by SKF, Fafnir, Federal, Schatz, and Timken bearing companies and the Bunting Brass and Bronze Co.

### Landgraf Election

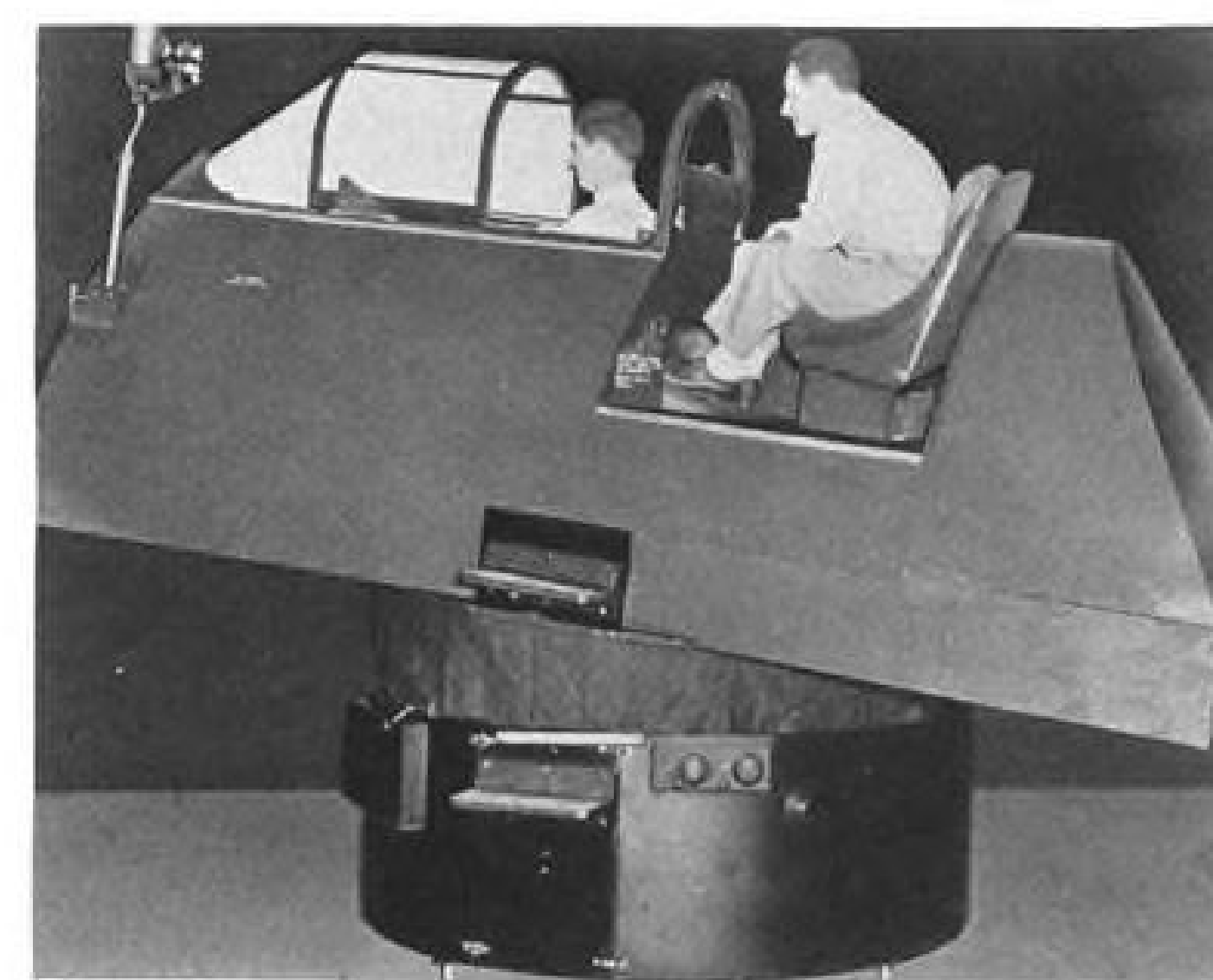
Stockholders of Landgraf Helicopter Co. have elected Fred Landgraf, James S. Ricklefs, and John N. Gladden directors for the coming year. Ricklefs has been vice president since 1944. Landgraf has been president since the corporation was formed in 1943. Both men will continue these capacities during the ensuing year.

The new board member, Gladden, is president of Gladden Products Corporation of Glendale, Calif.



#### NEW TRANSITIONAL TRAINER FOR CARRIER PILOTS

F8F Bearcat cockpit replica developed by Link Aviation, Inc. simulates all phases of actual flight. The 4,500 lb. device is said to train pilots so thoroughly that transition from the trainer to



actual aircraft no longer presents difficulties. Added realism is provided by plane-like vibration, engine noise, simulated clouds around the canopy. (Official U. S. Navy photograph).





## The **NEW** Marquette Model 3V Wiper

• This new windshield wiper incorporates every feature that is desirable and practical, based on thousands of installations on military, naval and commercial aircraft. It is the result of more than ten years of experience in this highly specialized field.

Blades are synchronized at all times. • Obstruction in path of blade will not stall it. Blades may wipe in same or opposed direction. • Blades are parked and locked when wiper is not in use. • Universal drive arm and tie rod require minimum stock of parts. • Wiper blades are easily replaced. • Pressure is removed from system when not in operation. • Motor unit may be located at any position in the airplane. Stroke on each window can be varied. • Hydraulic tubing eliminates linkage control and provides additional space for mounting other instruments. • Motor unit and window units are universal, providing maximum interchangeability of parts. • Constant torque values through entire stroke. • Uniform stroke at all speeds. Simplicity of design, resulting in lower first cost and reduced maintenance expense.

The **Marquette** METAL PRODUCTS CO.  
CLEVELAND 10, OHIO

SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Manufacturers of: HYDRAULIC, ELECTRIC AND AIR PRESSURE WINDSHIELD WIPERS  
HYDRAULIC GOVERNORS FOR DIESEL ENGINES • ROLLER BEARING TEXTILE SPINDLES  
FUEL OIL PUMPS • AIR COMPRESSORS • PRECISION PARTS AND ASSEMBLIES



## Low Price 'Copter Entering Field

Versatility with low maintenance and replacement needs  
seen offering advantages on par with popular lightplanes.

A newcomer to the helicopter field, the JOV-3 tandem rotorcraft developed by the Helicopter Engineering Research Corp. of Philadelphia, recently made its debut with its manufacturer claiming it can be made available at exceptionally low price.

Designed to fulfill the difficult requirements of safe and dependable flying offered by rotary wing craft, the JOV-3 'copter embodies many desirable features permitting a wide variety of uses, and making it a serious contestant for the popular aircraft market.

► **Accurate Control**—A true, accurate mastery of control is said to be achieved by this 'copter. Its two small rotors of less than 19 ft. diameter, operating at high speed are capable of supporting the machine motionless either a few inches off the ground or at any height up to its hovering ceiling. It can gain forward speed quickly, and stop faster than an automobile. It makes turns within a space of its own length. With power off, it glides well and can land in small spaces.

Due to the added degree of stability and simplified control design, its makers claim there is more comfort and ease in piloting this helicopter. A further claim is made that a shorter instructional period is required to master the controls of this machine than those of a conventional plane.

► **Lower Cost**—High initial and operating costs which are at present con-

sidered one of the barriers keeping the helicopter from being more popular, is believed to be substantially overcome. The small engine (100 hp.) and light weight of the machine (1,200 lb. with two passengers and fully loaded, and 800 lb. empty) brings the operating cost to a low level. Sturdiness of working parts, as shown by actual operation, indicate a minimum amount of maintenance and replacement are needed.

Estimates by its makers on the basis

of moderate production put the price of the JOV-3 at approximately \$8,500, with a further reduction to about \$6,000 for larger quantities foreseen.

► **Versatility**—The JOV-3 is designed especially to meet a large variety of rugged operating conditions in service, making it a multi-purpose machine.

As a crop duster, it can distribute 1,200 lb. of dust per hour, fly at best height and speed, and get into difficult places (around trees, etc.). Spacious cargo compartment with wide doors make it suitable for mail and light cargo work. As such it can transport a 250 lb. load a distance of 70 mi. at an estimated fuel cost of only two cents per mile.

Passenger seat and dual set of controls can be readily installed for training, or without the dual controls, the craft may be used as a passenger carrier having a top speed of 100 mph. and a range of 138 mi. at the best cruising speed (73 mph.). Service ceiling is estimated to exceed 12,000 ft.

The officers and engineers of the corporation are men who have all been actively engaged in pioneering rotary wing aircraft and include: D. K. Jovanovich, president and designer; F. J. Kozloski, vice president, has participated in the design of at least three helicopters; and George Townson, test pilot and treasurer, has 15 years experience flying and experimental testing in autogyros, convertiplanes, and various helicopters.

JOV-3 Basic Data	
Type: Tandem Rotors—Landplane—2 Seats in Tandem	
Dimensions	
Length Overall	26 ft. 4 in.
Height Overall	9 ft. 3 in.
Width	17 ft. 0 in.
Rotor Diameters	18 ft. 6 in.
Number of Rotors	2
Number of Blades—total	6
Weights	
Gross Weight	1,200 lb.
Empty Weight	777 lb.
Useful Load	423 lb.
Estimated Performance	
Max. Speed—Sea Level	100 mph.
Cruising Speed—Sea Level	73 mph.
Landing Speed—Power on S. L.	0 mph.
Landing Speed—Power off S. L.	30 mph.
Rate of Climb—0 mph.	475 ft./min.
Rate of Climb—48 mph.	1,290 ft./min.
Absolute Ceiling	14,000 ft.
Endurance—50 mph.	2 hr. 20 min.
Range at Cruising Speed	138 mi.
Time to reach 10,000 ft. altitude	11 min.
Power Plant	
Lycoming 0-235 Engine	
4 Cyl. Opposed—Fan cooled	
100 H. P. rated at 2,440 rpm.—Sea Level	



AVIATION ENGINEERING DATA BOOK

SHEET NUMBER ..... D-44  
CLASSIFICATION ..... Power Plants  
SUB CLASSIFICATION ..... Performance

Summary of Power Comparisons

Approximate speed range	Above 600 mph	Above 500 mph	300 to 600 mph	400 to 700 mph	300 to 600 mph	150 to 450 mph
Relative weight of fuel for a given duration						
Relative frontal area (drag)						
Overall efficiency						
Propulsive efficiency $\eta_p$						
Efficiency $\eta$ of converting fuel energy to mechanical energy						
Thrust-F proportional to mass handled and change in momentum						
Mass of air or gas handled M						
Propulsion method						
	Rocket	Athodyd	Buzz bomb	Gas turbine jet	Gas turbine with geared propeller and exhaust jet	Supercharged reciprocating engine with geared propeller and exhaust jet

Courtesy, Shell Aviation News and The Westinghouse Engineer

Here's my  
New Year's resolution



If you manufacture exhaust systems, venturi cowlings, flash boilers, heat exchangers or jet engine burner assemblies, start 1948 right, this way—Tell us under what conditions your equipment operates—what corrosive and erosive conditions it has

to meet — what temperatures and pressures it must resist—what are the weight limitations imposed. With facts like these to work from, our stainless steel specialists will gladly help you select the type of U·S·S Stainless that will best meet

your requirements. They'll show you, too, how these service-tested steels can be efficiently and economically applied to obtain optimum results. We don't know of any better way to insure you a happier and more prosperous New Year.



U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

UNITED STATES STEEL AMERICAN STEEL & WIRE COMPANY, Cleveland, Chicago & New York  
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NATIONAL TUBE COMPANY, Pittsburgh · TENNESSEE COAL, IRON & RAILROAD COMPANY, Birmingham  
UNITED STATES STEEL SUPPLY COMPANY, Warehouse Distributors Coast to coast: UNITED STATES STEEL EXPORT COMPANY, New York

AVIATION WEEK, January 19, 1948



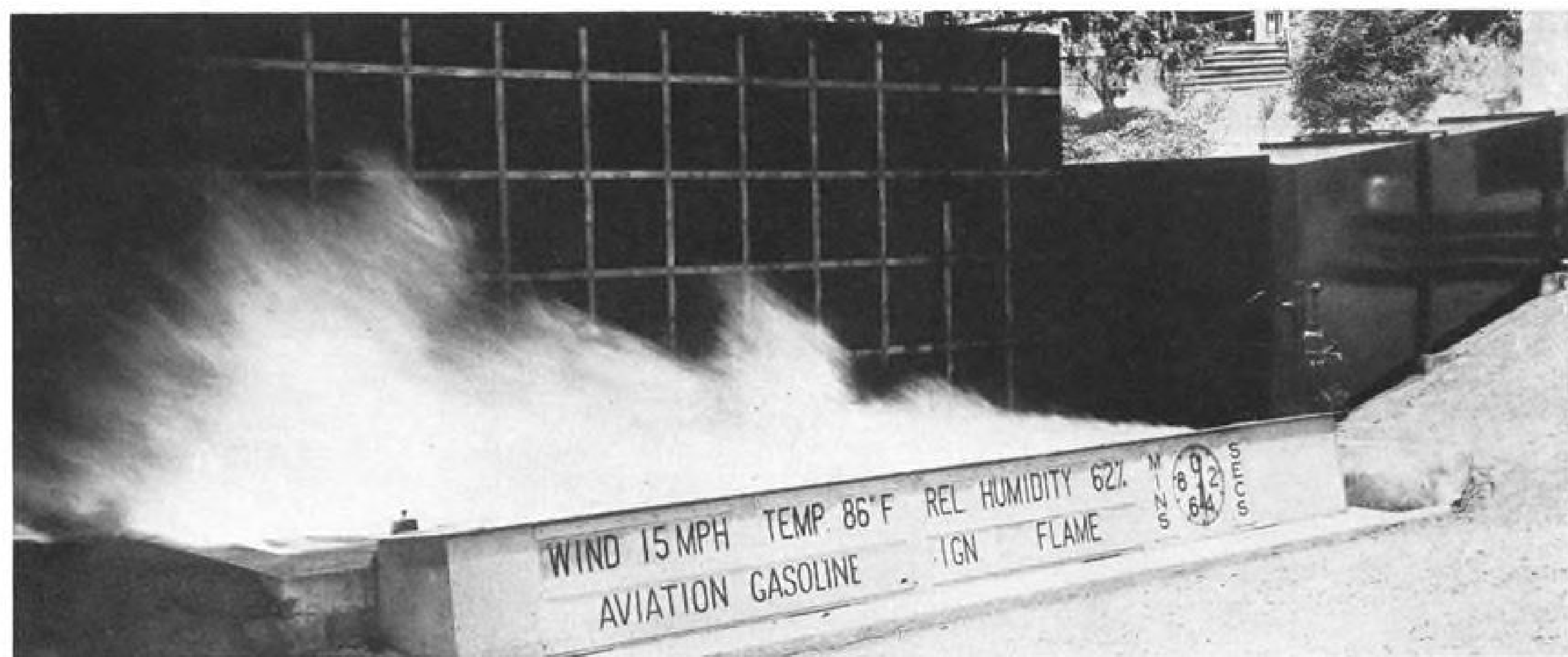


Fig. 1. Typical fire with conventional aviation fuel dropped six feet from flame source. Pertinent data are given on base of test platform.

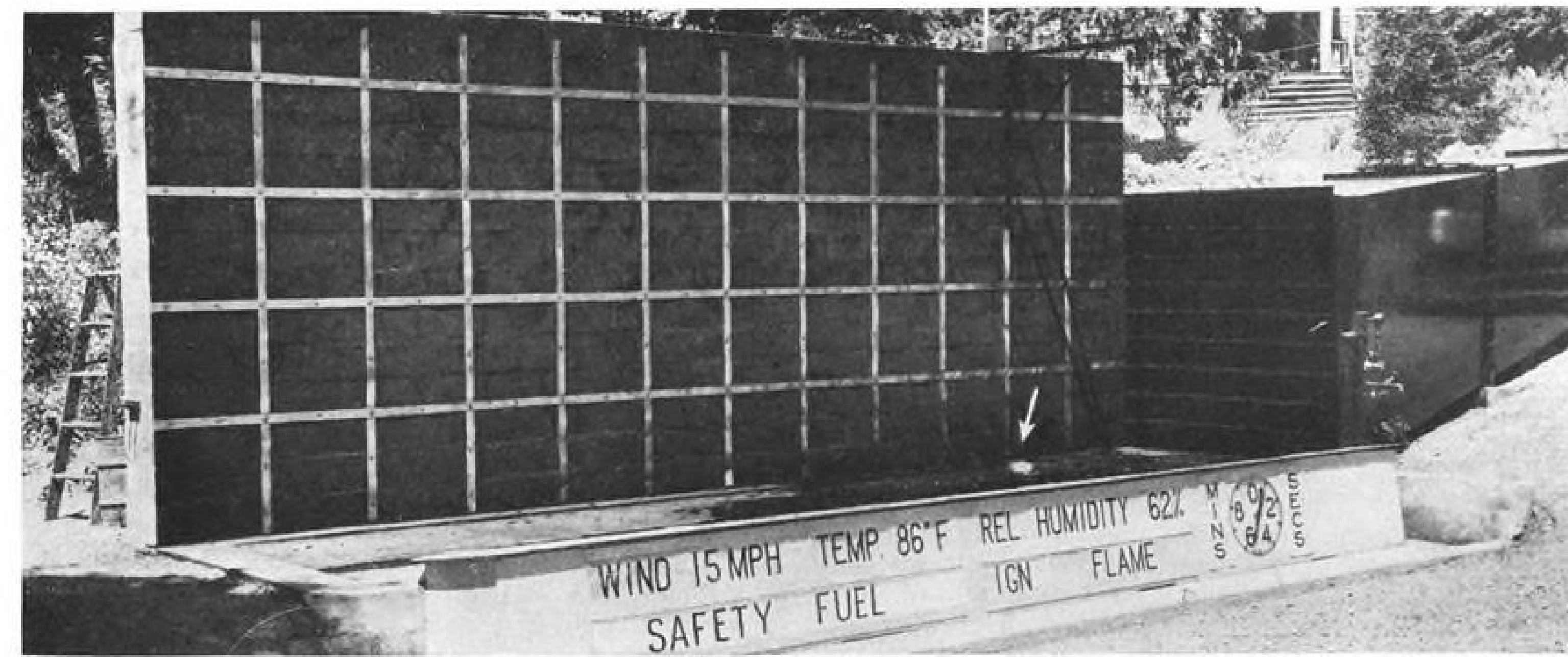


Fig. 2. Test of low volatility fuel under similar conditions produced no fire. Arrow shows flame. Clock records time after crash.

# Plane Crash Fire Danger Studied by Fuel Engineers

By DR. W. E. KUHN  
(Manager, Technical & Research Div.,  
The Texas Co.)

With the increased use of larger transport aircraft, operating and safety engineers flight and ground personnel have become increasingly concerned about the flammability of present day aviation gasolines. One proposed method of increasing aircraft safety is the use of lower volatility fuels having decreased flammability characteristics.

While the use of low volatility fuels is not feasible in conventional carbureted engines, the current development of the cylinder-injection engine may make the use of such fuels commercially practical.

► **Test Apparatus**—The Texas Co. built a fire test-stage on which these fuels could be exposed to various types of ignition under conditions which might be presumed to exist during crash landings of aircraft. This apparatus, shown in the accompanying photographs, consisted of a 6 × 24-ft. concrete platform with a 9 × 24-ft. back wall marked in two foot squares to indicate the extent of the fire occurring during the tests. Upon this fire-stage fuels were exposed by crashing in bottles and by spilling from open containers using various types of ignition. Such ignition sources consisted of an open flame from a highway flare, high tension spark, hot wire, and a hot pipe. Winds of varying velocities were obtained by a large blower.

► **Test Results**—Runs were made on a large number of fuel types and distillation ranges and on blends of such stocks.

A typical fire with conventional aviation gasoline is shown in Fig. 1 when two one-gallon bottles of the fuel were crashed six feet from the flame. At these same conditions no fire occurs (Fig. 2) with a fuel of 300-400 deg. F. boiling range (standard 100 octane aviation gasoline is rated between 115-338 deg. F. boiling point). Even when the flame is moved in from six to two feet from the crash point no fire occurs with the low volatility (300-400 deg. F.) fuel although at the latter condition a short spray flash is sometimes observed. In this connection a fire was judged to have occurred only if the fuel on the base ignited and the flames persisted for a minimum period of 1½ sec.

When two one-gallon bottles of fuel were crashed on the platform from an eight foot height, the occurrence of fire for any given fuel was dependent not only upon the distance from the crash point to the flame but also upon the ambient temperature.

► **Variables Studied**—The test runs of different sample sizes were made to determine effects on relative flammability. It was noted from the results that no flammability increase is encountered for samples either larger or smaller than the two gallon size selected for crashing.

► **Effect of either distance or wind velocity** is relatively minor for flame distances in the range of one to five feet. At these conditions ignition appears to result from spray contacting the flame. At the eight-foot flame distance, vapor flash ignition occurs for fire runs made with wind velocities up to approximately 10 mph. Above that velocity

spray flash becomes the major cause of ignition for fire runs. In this spray flash region, fuel volatility has to be considerably reduced in order to eliminate fire. At 16 ft., no spray ignition occurred, possibly due to the fact that the wind velocities available might have been insufficient to obtain much effect.

Besides being crashed in bottles, samples were also spilled from two three-gallon cans at various distances from the flame. The throat openings of each can was 1½ × 1½ in. Borderline volatilities for such fuels were tested at winds of 15 mph, for spilling at platform level and at a two-foot height. It was indicated that lower volatility fuels are required to eliminate fire when spilled at the two-foot height than for either of the other two exposure conditions (crashing, and spilling from platform level).

► **Reaction of precooled fuels** was also studied. The tests were made precooling the fuel to 15 and 30 deg. below ambient temperatures. Results indicated that apparently the precooling, at least within the ranges tested, had no appreciable effect upon the borderline volatility for the occurrence of fire.

► **Varied Platform Conditions**—Tests conducted with samples exposed on the concrete test stage when it was wet or filled with water gave the same borderline volatility as when the base was dry. When the platform was filled with snow, fuels were less likely to ignite by a degree equivalent to lowering the borderline volatility curve by approximately 40 deg. F. When tests were conducted in the rain, fuels were more likely to

ignite by a degree equivalent to raising the borderline volatility curve by approximately 25 deg. F.

It is interesting to note that the addition of light blending components such as propane, butane, and pentane increased the tendency of a fuel to ignite to a greater extent than would be predicted from the change in American Society for Testing Materials 10 percent point.

Fuel type also has some effect as is illustrated in Fig. 3 which depicts the differences in borderline volatilities between the different fuel types at the same flame distance are of relatively small magnitude.

Tests were conducted on fuels having substantially equal 10 percent ASTM points but with both wide and narrow boiling ranges. For such fuels, the borderline volatility could be predicted from the 10 percent point alone since the difference in boiling range did not have any effect that was not entirely reflected by the ASTM 10 percent point.

► **Ignition Source Effect**—The crashed

Although fuel ignition decreases with lowered volatility, exposure condition is ultimate factor.

samples were also exposed to a hot spark and a hot wire. Results for tests conducted with 15-mph. wind under these conditions are shown in Fig. 4 along with the reference curve for flame tests. Reference to this chart indicates that results with either a flame or high tension spark appear to be substantially similar.

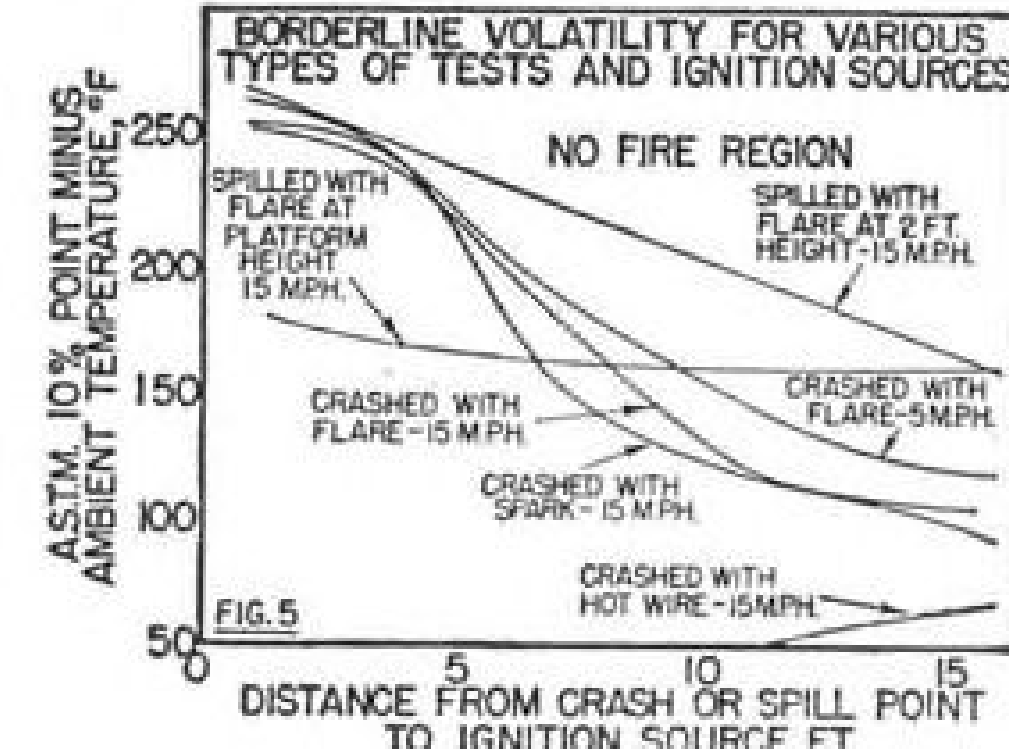
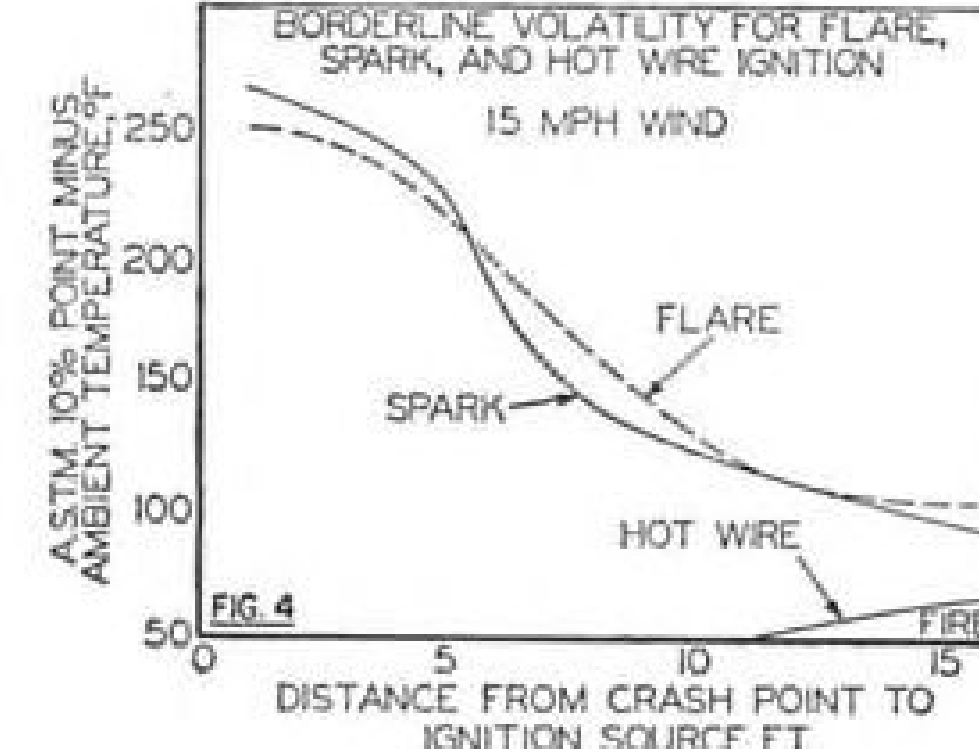
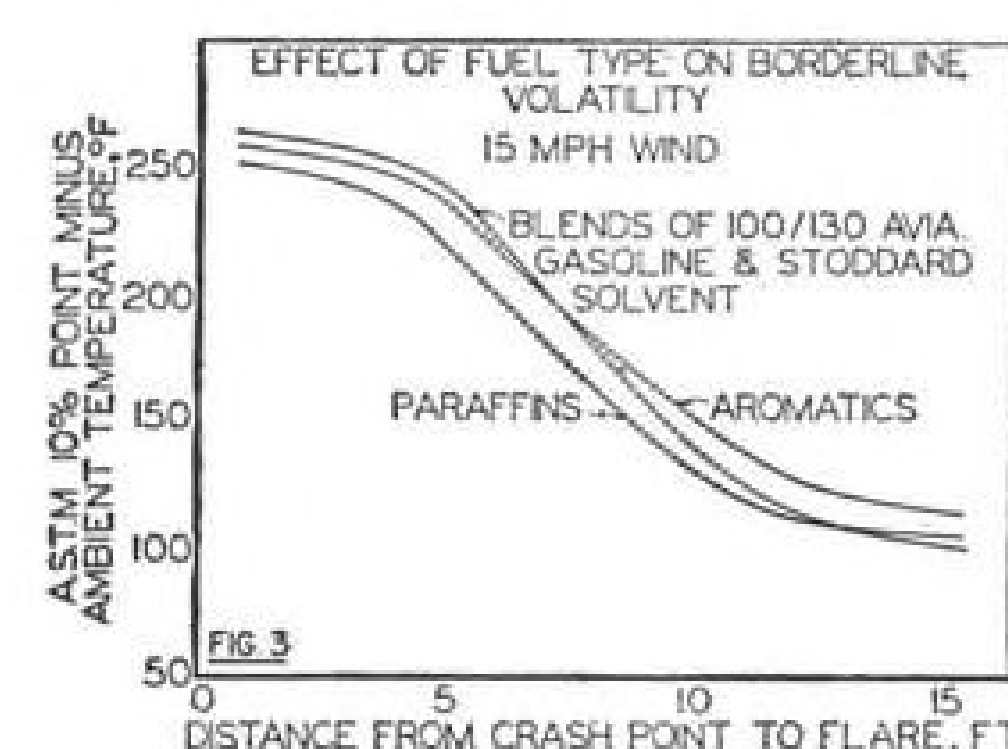
With a hot wire ignition source only, the fuels of the highest volatility were ignited and burned. Even at these conditions, fire occurred only at distances between the crash-point and hot-wire where ignition was by vapor flash with no spray to impinge upon the hot wire and cool it rapidly.

Crashed samples were also exposed to an ignition source consisting of a hot pipe. Tests indicated that with a 5-mph. wind, spontaneous ignition occurred only when the liquid crashed sufficiently close to splash on the heated pipe surface. An interesting phenomenon was observed during these runs—airplane lubricating oil (120 grade), having relatively low volatility, ignited at a lower hot-pipe skin temperature than either

the 300-400 deg. F. fuel or conventional aviation gasoline. Such order is inverse to that found with flame, hot spark, or hot wire ignition.

► **Summary**—Most of the results of this test work to date can be summed up in Fig. 5, giving border volatilities for the occurrence or non-occurrence of fire for different types of exposure, ignition sources, and wind velocities. Such data indicate that samples spilled at a 2-ft. height in 15-mph. wind with flame ignition are most likely to burn. Therefore, this borderline volatility is the critical one and establishes the highest volatility fuels which can be used without the occurrence of fire under these test conditions.

Throughout this study the volatility of the fuel and the conditions of its exposure to ignition sources were major influences in determining whether or not fire occurred. The results have shown that aviation fuels have exhibited less and less tendency to ignite as their volatility is decreased until a minimum is reached depending upon the conditions of exposure.





# Evaluation of Aircraft Pneumatics Indicates Commercial Applications

Though far from being perfected, experience with pneumatic controls on Convair's XB-46 points way to benefits for airline and lightplane use.

BY SCHOLER BANGS

Evidence is mounting that in the foreseeable future pneumatic landing gear and flap control systems may offer commercial transport operators the promise of bonuses in weight saving, safety, and equipment costs.

But as in the past, with other developments, the spadework is being done by and for the armed services and commercial applications will have to come later.

► **Pneumatic Applications** — However, military research on pneumatic control systems has advanced to a convincing state of practical application, and to the point where airlines and manufacturers of their aircraft and even small plane builders, can consider the potentialities.

At least one medium jet bomber, the Convair XB-46, now is flying with pneumatic controls, serving landing gear, bomb bay doors, and brakes. And a number of accessory manufacturers have been given military contracts for the perfection of pneumatic system components.

► **Advantages of Pneumatics**—No less than eight major advantages of the pneumatic system are listed by Howard F. Schmidt and Harvey F. Gerwig, Convair pneumatics authorities:

- Weight, for horsepower delivered, is less than any other system so far developed.
- Ground charging of compressed air containers before flight eliminates power drain upon engines at takeoff and requires minimum amount of power in flight to rebuild and maintain pneumatic pressure.
- The system charging medium—air—represents no initial cost.
- The pneumatic system is devoid of all fire hazards of hydraulic and electrical systems.
- System is clean.
- It is operationally satisfactory in that it is not affected by extremes of temperature; utilizes small carrying lines; shows insignificant pressure losses from line friction; and due to air compressibility presents no serious surge pressure shock wave problems.
- Air compressibility provides cushioned arrest of cylinder pistons moving at high velocity.

• Because sonic velocities can be achieved when air storage pressure is twice that of the operating pressure, moving components of the system can be designed for split-second operation if required.

► **Details of XB-46 Installation**—Indication of what future commercial users may expect of pneumatic systems is given best, at this time, by Convair's experience with the XB-46 installation.

Weight savings are pronounced—a saving of 297.29 lb. over a comparable hydraulic system to meet gear and bomb door operating specifications; well over 600 lb. over a comparable electric system. Weight given for the XB-46 pneumatic system is 628.12 lb. A comparable hydraulic system would have weighed 925.41 lb. For a comparable electric system the actuators alone would have weighed 1,292 lb.

Freedom from imposing an accessory-operating power drain upon the airplane's engines during critical takeoff and landing periods is emphasized for the XB-46 system, and its designers inform AVIATION WEEK that during flight the system air pressure bottles are recharged in 12 min. by an engine-driven compressor drawing only 2½ engine hp.

In the XB-46, two specially designed Westinghouse compressors are installed, one of them a standby unit, and are gear driven respectively by engines 1 and 3.

Contrary to expectations of other pneumatic system research groups, Convair reports that the compressors have given no trouble from overheating, and have performed satisfactorily since their installation after the sixth flight of the airplane. During the craft's first six flights, pending production of the engine driven compressors, recharging of the system had been accomplished by independent electric-driven compressors.

Maintenance problems, as well as weight, are reduced by the system's single-line no-return delivery of compressed air to terminal piston components, and by the use (in the XB-46) of delivery lines having ¾ in. maximum outside diameter as contrasted with line sizes of up to 1½ in. outside diameter required for a comparable 3000-psi. hydraulic system.

The XB-46 system employs a storage

pressure of approximately 1500 psi. Both from viewpoints of initial cost and maintenance, the pneumatic system should be extremely attractive to potential commercial users.

► **System Components**—Total equipment for such a system can be listed under seven component headings: Air storage bottles; compressors; regulators to reduce storage pressure to required operating pressure; relief valves, to protect the system from rupture by surge pressures or improper action of pressure regulators; selector valves; actuating units, either linear motion cylinders or rotary-motion air-driven motors; and brake valves.

Although commercial requirements doubtless would not be as severe, the gear and bomb door operating specifications for the Convair jet bomber offer a display of the extreme speed of action that can be imposed upon a pneumatic system. Retraction of the 93,000-lb.-plane's landing gear is accomplished in 4 sec. Bomb bay doors are opened or closed in 1 sec.

► **Design Problems**—Although the Convair installation is considered by plant engineers to be entirely practical, its development was not without the encountering of serious design problems.

At the close of the war it was quite evident that American understanding of aircraft pneumatics was considerably behind that of Germany, and some research engineers interviewed decried the fact that little attention was paid to Nazi pneumatic systems.

One said: "We apparently were more interested in ransacking German scientific files for V-2 data, allowing Russia to walk off with all the pneumatic control systems. The result was that when we approached development of a pneumatic system of our own, we found that not a single German installation had been salvaged and brought to the United States for reference and study."

If this is true, it would appear inevitable that our own initial developments would present a variety of operational "bugs."

Convair engineers found, for example, that solenoid controlled selector valves had a tendency to ice up and stick; and solved the problem by using shear-flow valves embodying an "optical flat" surface lapped tubular poppet and slide, or rotor seat. Several redesigns of pressure regulators were required before satisfactory operation of this important unit could be obtained. Progressive improvement of air-cushion snubbing mechanism was necessary. Brake valve trouble displayed a serious lack of vendor experience in aircraft pneumatics, and finally was surmounted by Convair's use of "optical flat" plate valves, which have proved highly satisfactory.

It is interesting to note that the theoretical "moisture hazard" drawback cited against pneumatic systems was found to be of no consequence in the XB-46. After three months of operation, the entire system (22,000 cu. in.) was drained, and only a cup of water and oil emulsion recovered.

No effort is made by Convair engineers to indicate that the pneumatic system has been "perfected." They concede that regulators, valves, snubbing mechanisms, and lubricated seals between pistons and cylinder walls still are open to research investigation and improvement.

However, they believe that experience gained to date with the XB-46 establishes the permanence of the pneumatic system for future aircraft, and they anticipate the extension of its application to flap, surface control, and steering operations. They suggest, too, the employment of pneumatic starters for jet engines; pneumatic canopy break-away and pilot seat ejection in military aircraft; and windshield cleaning by spraying the windshield with fluid under pressure gained from an air-driven jet pump of the venturi type.

## Water Turbos Power French Wind Tunnel

Dual 49-ft. fans to afford near-sonic tests; 10,000-hp. jets also accommodated.

Powered by two 110,000-hp. Pelton water turbines fed by a 2,835-ft. fall of water, a large wind tunnel installation—now being assembled at the Alpine Valley site of Avrieux, France—features a 46-ft.-long test chamber section approximately 26½ ft. in diameter (varying from 25½ to 26½ ft. in direction of airflow).

Total length of the air circuit will be about 1,280 ft., and weight of the installation will approximate 3,050 tons.

Potential of developing a maximum airspeed value of Mach 1 will decrease to about 0.925 with models no wider than half the diameter of the test section. And jet engines up to an equivalent of 10,000 hp. will be accommodated.

From a 78-ft. diameter tranquillization chamber in the circuit, a short convergent connection brings the airflow down to the diameter of the test section. This convergent space has been verified by Southwell's method of relaxations. Calculations show a slight super-speed of two percent at the sides, which will probably have the beneficial effect of reducing the thickness of the outer air layer. (Continued page 28)

## ASSEMBLY LINE PRODUCED VALVES INDIVIDUALLY-ENGINEERED FOR THE CONVAIR LINER

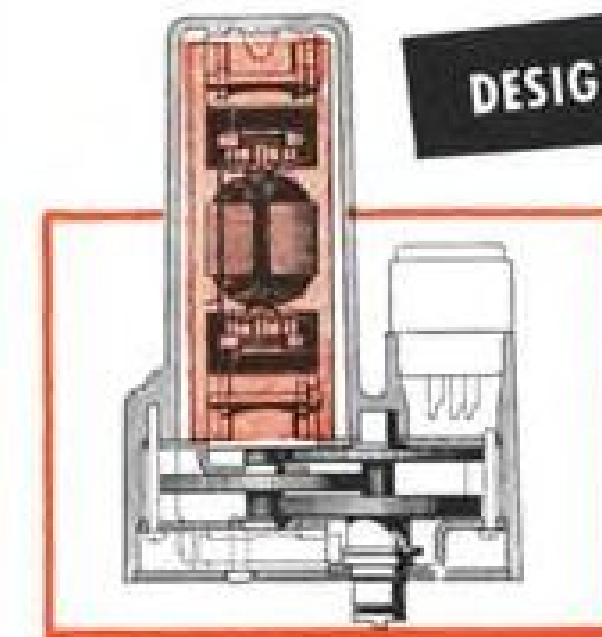


Soon to be seen on the world's leading airlines, the new Convair-Liners are outstanding among postwar medium-range transports. Naturally, these super 300-mile-per-hour airliners are equipped with Whittaker Motor-Operated Shut-Off Valves. Controlling the vital

fuel system, these valves have a special visual indicator to show position of valve gate. This individual-engineering of field-proven designs, combined with modern, assembly-line manufacturing processes make Whittaker valves the leading choice among the leaders in the aircraft industry.



### DESIGN FEATURES OF WHITTAKER MOTOR-OPERATED VALVES



**POWER PACK**—Demountable power pack adaptable to 6, 12 or 24 volt systems. Dynamic braking of motor locks valve in position. Operating times of 1 to 60 seconds. Conforms fully to AN-M-10a specifications.



**VISUAL INDICATOR**—Spring loaded pin, actuated by valve drive shaft, indicates valve gate position. Ground crew can immediately determine position of shut-off valve.



**FLUID SEAL**—Highly polished sliding gate operates between two spring-loaded, aromatic resistant sealing rings. Fluid pressure assures perfect no-leak sealing. Complete valve has winterization yellow dot approval.

Individually-engineered designs...easier installation...better operation...lower maintenance! These are the benefits you get with Whittaker's specialized aircraft valves. Let Whittaker engineer proven-valve designs to meet your specific requirements. WM. R. WHITTAKER CO., LTD., 915 N. Citrus Ave., Los Angeles 38, California. Eastern representatives—AERO ENGINEERING INC., Roosevelt Field, Mineola, New York.

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DESIGNERS • MANUFACTURERS • DISTRIBUTORS

LEVER AND MOTOR-OPERATED SLIDING GATE SHUT-OFF VALVES • DRAIN COCKS • PLUG VALVES • 3-WAY PLUG VALVES • 4-WAY SELECTOR PLUG VALVES • SWING CHECK VALVES • HYDRAULIC CHECK VALVES



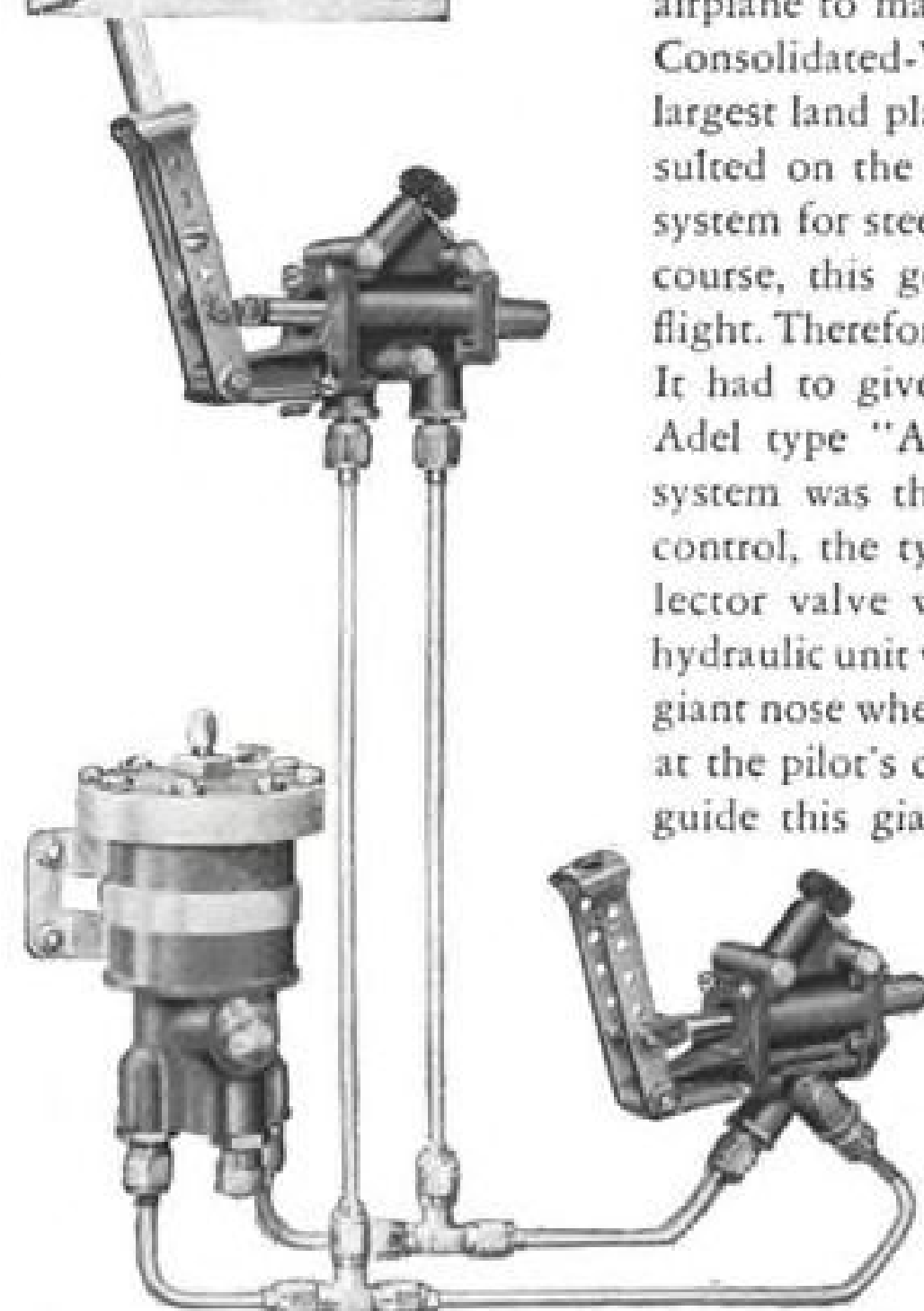


CONVAIRE XC-99—world's largest land plane—sister ship to the B-36.

### A force of 5 pounds steers this 133 ton Giant

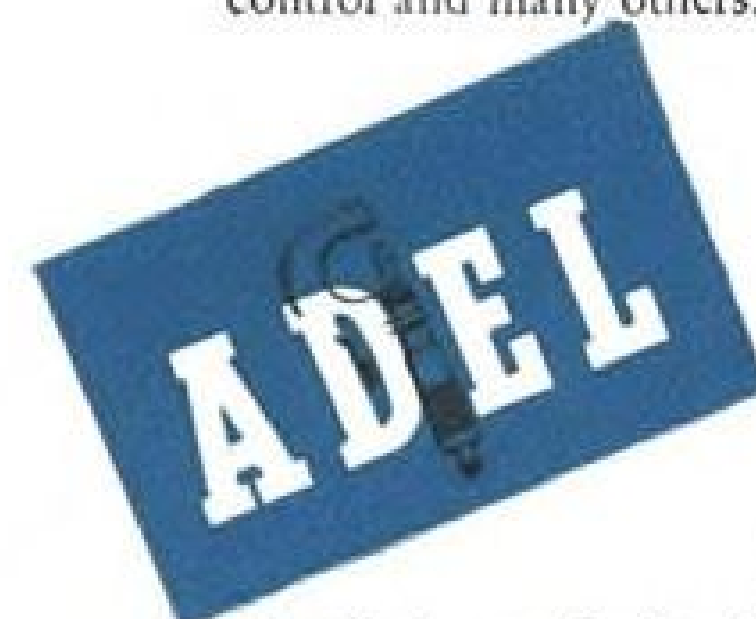
One hundred and thirty-three tons is a lot of airplane to maneuver on the ground. When Consolidated-Vultee built this, the world's largest land plane, Adel Engineers were consulted on the design of a hydraulic control system for steering the huge nose wheel. Of course, this gear is retracted completely in flight. Therefore, the system had to be flexible. It had to give fast, positive response. The Adel type "A" ISOdraulic remote control system was the answer. Utilized as a pilot control, the type "A" operates a 4-way selector valve which controls the powerful hydraulic unit which in turn actually steers the giant nose wheel. A force of only five pounds at the pilot's control is all that's required to guide this giant when she "sets down."

Adel's type "A" ISOdraulic remote control is a manually-operated hydraulic system. Basically, it consists of a closed circuit of tubing containing a hydraulic fluid. At both ends



of this tubing are pistons, so designed that the pressure applied to the fluid by one piston causes the other piston to be moved. A compensator automatically corrects variations in fluid volume caused by atmospheric temperature changes.

The Adel type "A" is a self-contained hydraulic system. It is adaptable to numerous remote control applications, such as aircraft engine controls, propeller feathering, cowl flap regulation, radiator air control, ventilator control and many others.



Write today for further information on how Adel ISOdraulic equipment can be adapted to your requirements. General catalog sent upon request. Address: ADEL PRECISION PRODUCTS CORP., 10727 Van Owen St., Burbank, Calif.

**ADEL PRECISION PRODUCTS CORP.**  
BURBANK, CALIF. ★ HUNTINGTON, W. VA.

Manufacturers of: Aircraft Hydraulic Systems • Marine & Industrial ISOdraulic Controls • Halfco Self-Aligning Bearings • Line Support Clips and Blocks • Industrial Hydraulic Equipment • Aircraft Valves • Industrial Valves

An annular vent between the exit of the tranquillization chamber and the entrance to the convergent connection will allow for evacuation of air to the atmosphere.

Accessibility to models will be obtained by maneuvering the measuring carriage located on rails below the test section.

Beyond the test section is a diffuser with initial opening angle of 5 deg. which widens to 7 deg. for most of the length of the installation.

Following this is an elbow which turns the air 90 deg. by 12 hollow fins fitted with adjustable flaps. The fins have an average width of about 12 ft. and are 52½ ft. high.

Approaching the two fans which impel the air, the tunnel's diameter is reduced to about 49 ft. (fan diameter) to contract the outer layer. The fans—spaced about 8 ft. apart—have, respectively, 10 and 12 blades, and rotate in opposite directions to redress the fluid flow, avoiding the need for a fixed redresser.

The maximum fan speed is to be 250 rpm. Beyond the fan installation is a second elbow.

The Pelton water turbines, housed outside of the tunnel proper and located at opposite ends of the fan installation, are connected to the fans by long transmission members passing through the elbows.

Downstream from the second elbow is a small diffusion section preceding the air admission apparatus composed of two central cylinders with adjustable flaps. After this section, a 217-ft.-long diffuser enables sufficient recuperation of kinetic energy. Following this diffuser section are two other 90-deg. elbows (each containing 20 fins about 78 ft. high), bringing the circuit back to the tranquillization chamber.

Tunnel construction comprises welded steel tubing, varying in thickness from 0.236 to 0.472 in., bound by main rings (spaced about 50 ft. apart) and intermediate rings. No longitudinal stiffeners are used, and only the main rings rest on the ground.

Fixed points of the tunnel consist of the test section, the fan group, and the elbows.

Scale on the measuring carriage beneath the test chamber is to be set to allow for drag of about 4.4 tons and a thrust of approximately 10 tons.

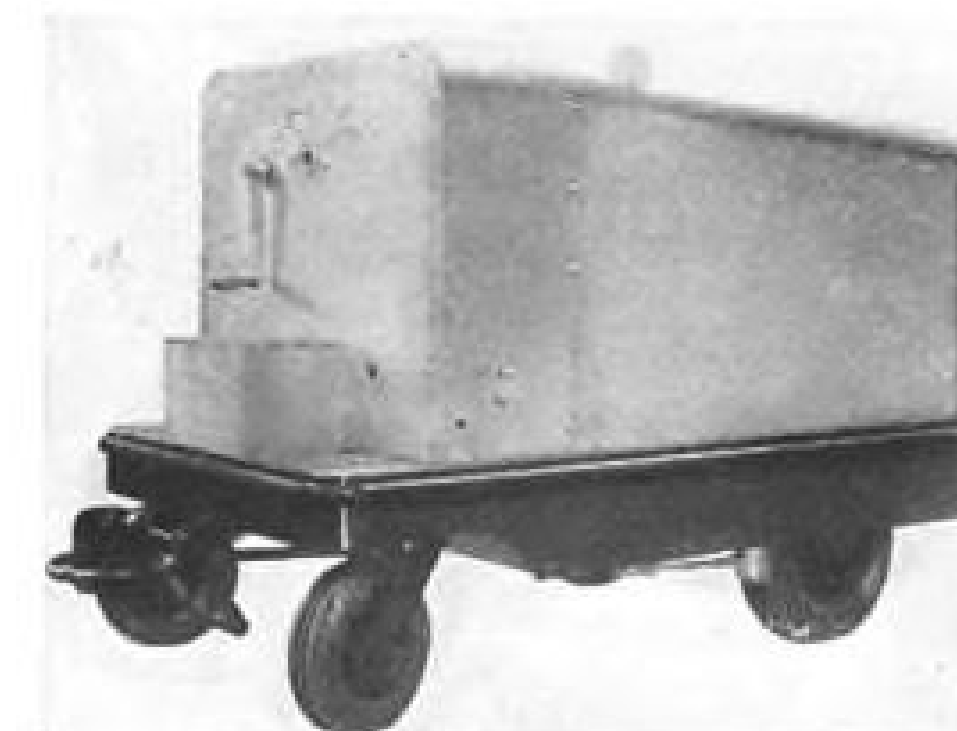
Scheduled for completion early in '49, and for service in 1950, the tunnel will be operated by France's governmental aeronautic research bureau—Office National d'Etudes et de Recherches Aeronautiques.

To supplement the present installation, two other tunnels are envisaged for the same site—one with a speed of M 2, the second with M 8.

## NEW AVIATION PRODUCTS

### Hot Water at Planeside

For quick servicing of commercial aircraft with hot water, new wash water truck made by International Diesel Electric Co., 13-02 44th Ave., Long Island City, N. Y., carries 120 gal. with temperature held at 140 F., delivering 15 to 20 gpm. with hand-operated rotary pump. Vehicle is trailer type with front and rear couplings, has welded all-steel chassis mounted on double-sprung Bassick floating hub airline-type wheels. Stainless steel tank is arranged with baffles to curb surging while in motion and carries a 2½-kw., 115v., single phase, 60c. thermostatically controlled immersion heater together with two sight gages. Cover provides easy access for in-



spection or cleaning. Surrounding tank and pump compartment is 1-in. U. S. Rubber cellular rubber insulation, impervious to water.

### Fire-Resistant Paneling

Intended to reduce aviation fire hazards, new fire-resistant paneling, designated as Pyroply and stated to offer protection to humans within inch of 2,200-deg. F. fire, is product of Skydyne Corp., Port Jervis, N. Y. Panels have du Pont "Strux" cellular cellulose acetate plastic sandwiched between carbon steel sheets. It's claimed that in official tests, paneling withstood applied heat in excess of 2,200 F. for over 30 min. (exceeding CAA requirements). Panels also insulate against noise.

### For "Tight" Installations

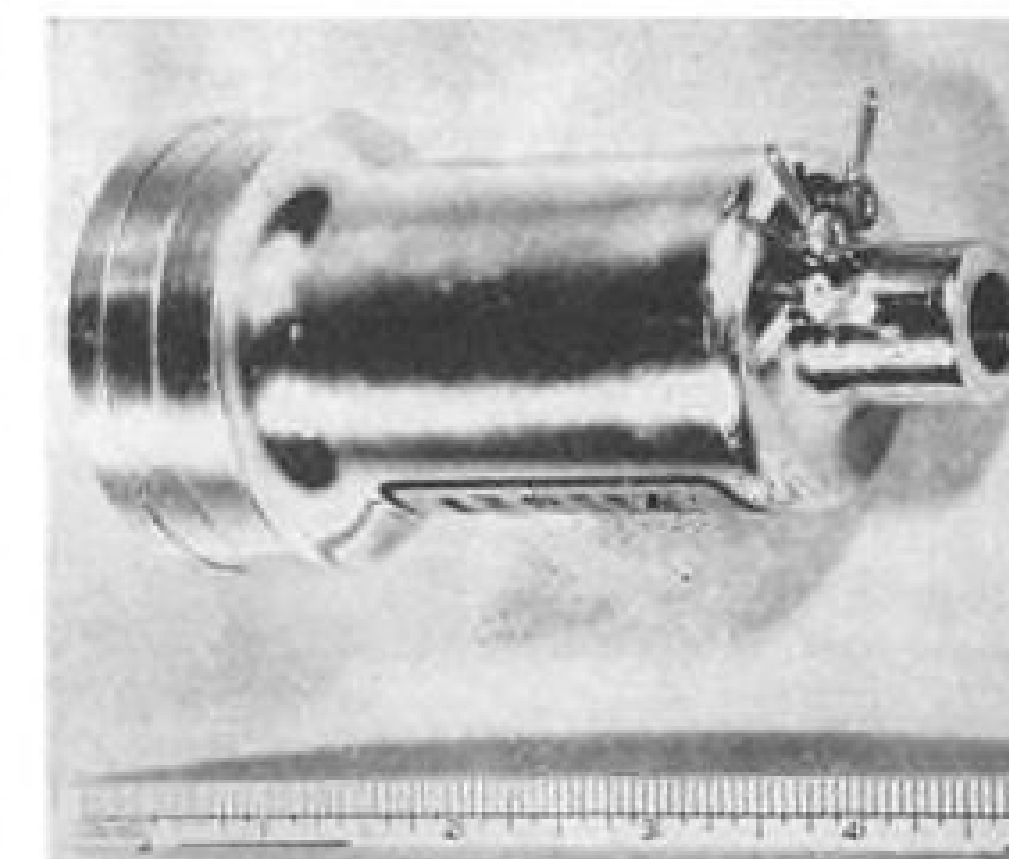
Specially developed for hard-to-get-at adjustments in close jobs on ignition systems, carburetors, instruments, and radios is new midjet combination wrench set made by Meteor Mfg. Corp., 24 Glenwood Ave., Buffalo, N. Y. Fabricated of chrome-moly, with nickel finish, units have open end and 12-point box heads in sizes ¼ × ⅜, ⅜ × ⅝, ⅝ × ⅞, ⅞ × 1, 1 × 1 ⅛, 1 ⅛ × 1 ½, 1 ½ × 1 ¾, 1 ¾ × 2, 2 × 2 ¼, 2 ¼ × 2 ½, 2 ½ × 2 ¾, 2 ¾ × 3, and 3 × 3 ½.

### Constant Voltage Transformer

Designed to deliver regulated power to radio and electronic equipment comprising radio aids to navigation and instrument landing systems is 7½-kva. constant voltage transformer made by Sola Electric Co., 4633 W. 16 St., Chicago 50, Ill. to protect against damage from periodic high-voltage levels or sudden surges, and against faulty operation which would result from low or variable voltage levels.

### Pressure Transducer

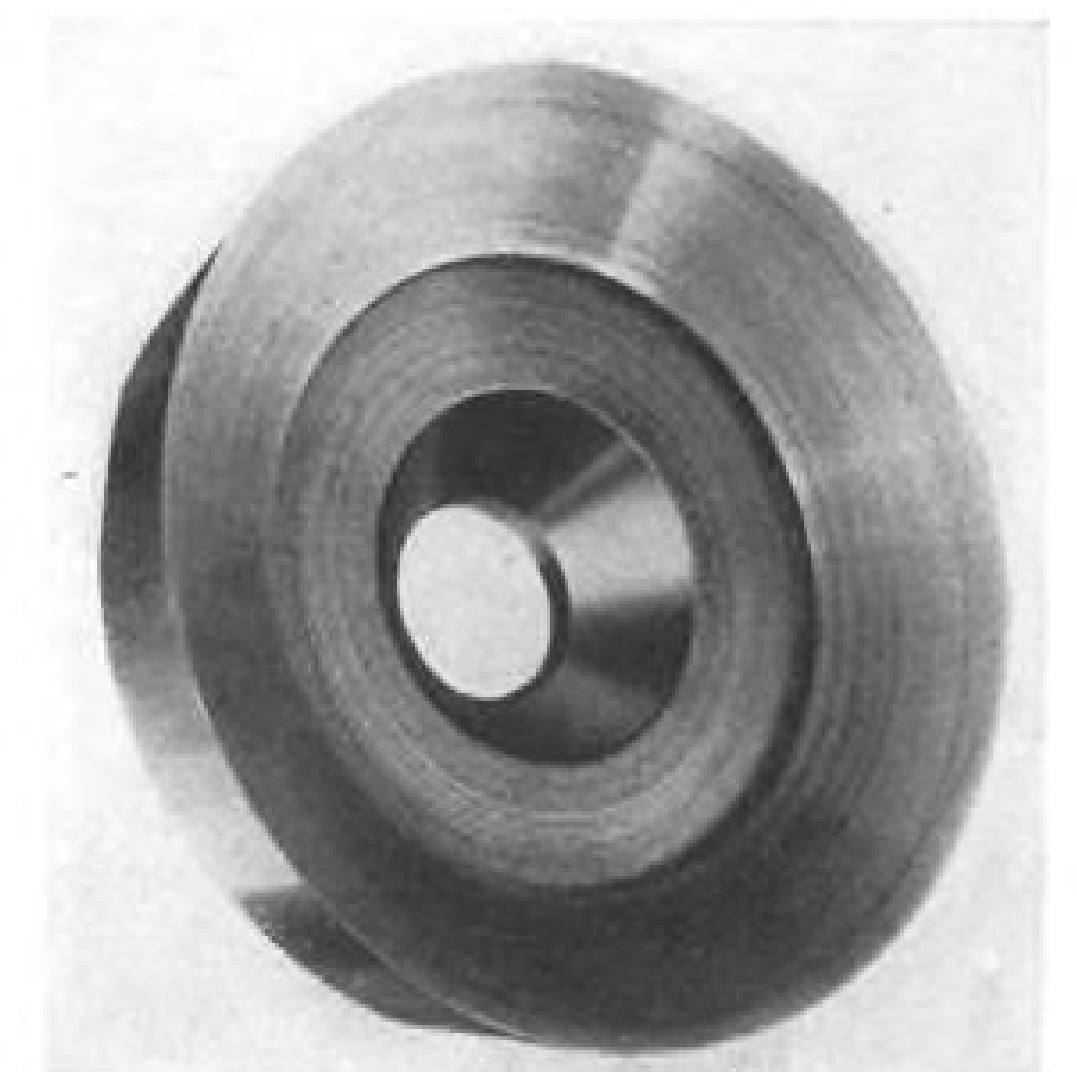
Suitable for telemetering links, strain gages, galvanometer recorders, and for applications where small differential pressures need be measured is new pressure transducer, Type 4713, of conventional dome-shape but small and extremely light. Made by G. M. Giannini & Co., 285 West Colorado St., Pasadena 1, Cal., unit utilizes slack-diaphragm principle of measurement. One end of spring-linkage movement is fastened to transducer dome; other end to bellows. Half of spring is wound counterclockwise; other half clockwise. Microtorque potentiometer wiper is fastened at center of linkage. As bellows responds to changes in pressure, movement is transmitted to bellows-end of linkage. Since spring is wound in two directions, small movement at one end induces large rotation of wiper on microtorque coil, giving large voltage variations, or large outputs, for extremely small changes in pressure. Performance values are Range, ±20 in. H<sub>2</sub>O; resolution 0.4 in. H<sub>2</sub>O; accuracy



0.4 in. H<sub>2</sub>O, 1% of full range at room temperature; overpressure 3 psi.; frequency response, 20 cps. or higher; resistance, 100 to 10,000 ohms, acceleration to 20 Gs; and temperature exposure from -65 to +70 deg. C. Unit is 3 ⅝ in. long, 1 ⅝ in. in dia., weighs under 6 oz. Potentiometer voltages depend upon resistance range.

### New Cutting Tool

Adaptable to metal-working phases of aircraft industry, new boring, turning, and facing tool featuring circular cutter bit is announced by Shearcut Tool Co., Box 746, Reseda Post Office, Los Angeles, Cal. Fastened to end of specially designed holder, bit is claimed to utilize new technique in cutting metal. Penetration angle is such that shearing action gives mirror-like finish with reduction in heat of friction. It's stated that 20 to 50 new, sharp cutting edges may be presented by rotating bit, eliminating necessity of stopping production at frequent intervals to resharpen tool. Long life for cutting edge is claimed as result of shearing action and manner in which chip removed slides back over cutting edge, tending to keep it sharp. Bit material is cobalt high speed steel.



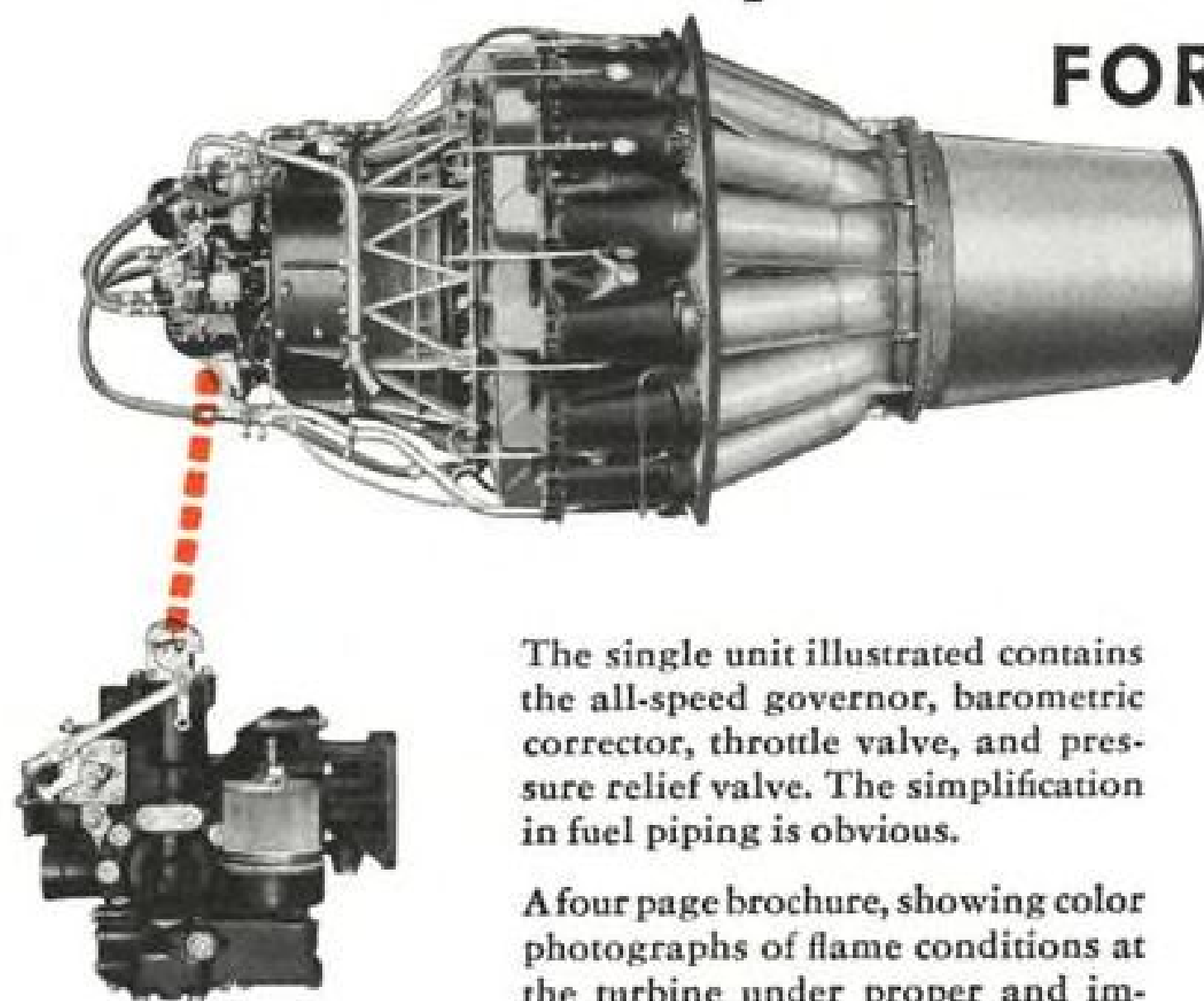
### Hard Surfacing of Tools, Dies.

Designed to build up working surfaces or edges of cold-working metal cutting and forming tools, new electrode, Toolweld A & O, made by Lincoln Electric Co., Cleveland, Ohio, is stated to produce surfaces of high strength for resisting wear and impact in all applications where high temperatures are not encountered. Deposited weld metal is of 5% chrome type and may be used as welded or subjected to wide range of heat treatments. Product is represented as low-cost electrode for economical manufacture of composite metal working tools by using carbon steel base and building up edges of tool steel quality, or for alteration or repair of hardened dies and tools. Successful applications are claimed on such tools as blanking, forming, and die casting dies; upsetter dies and punches; forming rolls; burnishing tools; centerless grinder rests; planer ways; and flash shearing dies and punches. Electrode will operate on either a.c. or d.c., electrode negative with d.c., and gives thick bead in one pass in low current portion of operating range, thin bead in high current portion.





## with Speed-Density Fuel Control FOR JET ENGINES



The single unit illustrated contains the all-speed governor, barometric corrector, throttle valve, and pressure relief valve. The simplification in fuel piping is obvious.

A four page brochure, showing color photographs of flame conditions at the turbine under proper and improper control, will be sent in response to properly qualified inquiry.

In the same way Bendix\* research has so often made aviation history—including the introduction of the Stromberg Injection carburetor for piston engines—the new Bendix Speed-Density Fuel Control revolutionizes the fuel metering of jet engines. Utilizing Bendix-Stromberg practice, the Speed-Density Control accomplishes all of the following with a simple, direct action, and no servo delays.

- inherent temperature limitation by fuel/air ratio control.
- sensitive, accurate, all-speed governor.
- quick throttle burst permitted without over-temperature or blowout.
- no die-out on deceleration.
- compensation for air temperature, ram, and altitude.
- prompt and "cooler" starting.
- no disturbance from maneuvers, or "pullouts."

BENDIX PRODUCTS DIVISION of  
SOUTH BEND 20, INDIANA



DIRECT INJECTION SYSTEM  
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FUEL METERING DEVICES  
★  
STROMBERG\* INJECTION CARBURETORS  
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SHOCK ABSORBING STRUTS

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HYDRAULIC EQUIPMENT

\*REG. U.S. PAT. OFF.

## SALES & SERVICE

### Stall Approach Flight Tests Show Need for Indicator Installation

National Research Council report, by Prof. P. J. Rulon of Harvard, says even 5,000-hr. instructors are not immune to stalling when flying an unfamiliar plane.

Many pilots who boast that they can detect an approaching stall condition by the "seat of their pants" are kidding both their auditors and themselves, findings of a series of flight tests with 254 student pilots, private pilots, flight instructors and commercial pilots, have indicated.

As a result, the Committee of Aviation Psychology of the National Research Council, for whom the tests were conducted, has recommended compulsory installation of stall warning indicators on all private airplanes.

► **No Compulsion Seen**—CAA's Dr. Dean Brimhall, research assistant to Administrator T. P. Wright, and member of the committee, doesn't anticipate any immediate compulsory requirement for the indicators, but believes that eventually they will be on virtually all airplanes that aren't designed to be stall-proof. He thinks that the trend toward installation of stall indicators as standard instruments on planes, which is being started by at least two manufacturers of personal planes, probably will spread within a reasonable time to a point where most new planes coming out will have stall indicators as standard equipment.

Indications are that even some reactionary CAA inspectors in the field, who have placed serious obstacles to the installation of the stall indicators in airplanes in quantity, are now beginning to see the light due to telephone calls and telegrams sent out by Washington to the regional offices. (See briefing column.)

► **Test Details**—The flight tests were made with Safe Flight stall warning indicators installed so that they indicated incipient stalls to a check pilot riding with the pilot who was being tested. Test details are given in a 136-page report, "A Study of the Accuracy of Recognition of the Incipient Stall in Familiar and Unfamiliar Planes," by Prof. P. J. Rulon of Harvard University, a commercial pilot. Prof. Rulon conducted the tests as an NRC project at the Educational Research Corp., Cam-

bridge, Mass., with funds provided by CAA.

Aeronca Champion 65-hp. tandem trainers were used as the standard planes for the test conducted at three airports:

Bedford Field, Mass., East Coast Aviation Corp., James Heshion, operations manager; Philip Sampson, check pilot; Dr. Leo Lieberman, project supervisor.

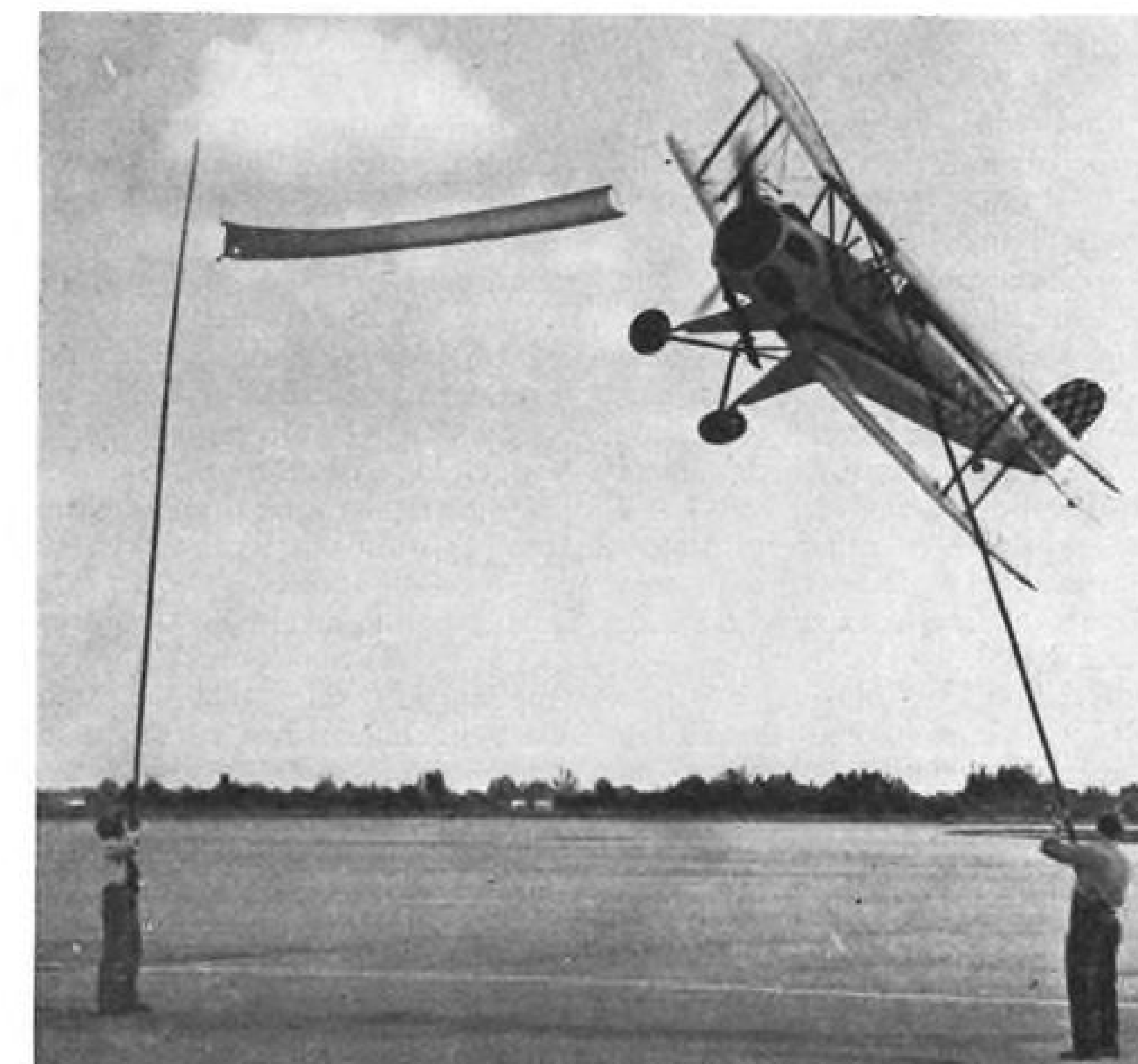
Cumberland Airport, Nashville, Tenn., Capitol Airways, Mack H. Rowe, operations manager; Frank Welburn, check pilot; Prof. Stanford C. Ericksen, of Vanderbilt University, project supervisor.

Westchester Co. Airport, New York, North American Airport Corp., Robert W. Gallaway, airport manager; Walter J. O'Neill, check pilot; Prof. Robert T. Rock, Jr., of Fordham University, project supervisor.

Each test airplane was equipped with five vanes in the leading edge of the left wing, similar to those used in the standard Safe Flight stall warning indicator. The vanes were installed at different angles so that they gave a series of warnings as the plane approached the stall. The indicators were connected to a clip board held by the check pilot, which had five lights, one for each vane. As each pilot was tested he was instructed to fly the plane as close to a stall as he could without stalling, while the number of lights on the clip board showed the precision of his flying.

► **Unfamiliar Planes**—Following the tests on the "familiar" airplane, comparison tests were made with 119 of the same pilots in an "unfamiliar" plane of the same general type, a Taylorcraft L-2M liaison plane, with flight and stall characteristics markedly different from those of the Aeronca.

Differences noted between the two planes in the report included: slightly more dihedral in Aeronca wings; Taylorcraft was equipped for instrument flight;



#### AEROBATICS AT MIAMI

Sparkling the aerobatics display at the 16th Miami All-American Air Maneuvers held recently, "Bevo" Howard, veteran stunt pilot and fixed base operator, is shown cutting a ribbon with the wing of his "Bunker Jungmeister" during the opening day program. (Press Assn.)



Aeronca had streamlined fuselage behind wing, while Taylorcraft had Plexiglas inclosure for observer; Taylorcraft was noticeably heavier with longer takeoff run and slower climb; lower surface of Taylorcraft wings had negative camber, while lower surface of Aeronca wings had zero camber, accounting principally for the difference in stall characteristics between the two planes; Taylorcraft had gussets at the roots of the wing trailing edges, and had softer aileron controls and stiffer elevator controls than the Aeronca.

► **Varied Pilots**—Pilots who flew both planes in tests included 39 student pilots, 44 private pilots, and 36 instructors. Stall approaches included straight ahead stalls, climbing turns, gliding turns and steep turns. Check pilots also kept tab on the number of lights that were flashed during other flight conditions, in between the assigned maneuvers.

Individual records of flight performances in the unfamiliar airplane were so much worse than in the familiar trainer as to indicate greater attention to checkouts with stall characteristics of strange airplanes than is given customarily at many airports.

In the familiar plane, only a few pilots actually stalled the aircraft as many as three times, and only one as many as four times in the stall approaches.

► **Many Stalled**—Among the smaller total number who flew the unfamiliar plane, two student pilots, eight private pilots, and four instructors, actually stalled the plane five or more times, in approaches. One student pilot made only three approaches without stalling, and the other student made only one approach maneuver, straight ahead with climbing power, without a stall. One of the private pilots made 10 stalls, another nine, another seven, three six, and two, five stalls. An instructor made six actual stalls, although he had 1,200 solo hr., while three other instructors made five actual stalls each, with solo flight hours totaling, respectively, 5,000, 2,600 and 1,600.

The Aviation Psychology Committee of NRC which sponsored the Rulon tests expects to conduct additional investigations, on stall recognition, effect of training on stall recognition, isolation of cues giving warning of an impending stall, and other aspects of the problem.

## Factional Fight Flares Over Taylorcraft Inc.

Troubled affairs of the Taylorcraft, Inc., the struggling concern formed from the wreckage of the Taylor Aviation Corp., once the chief employment mainstay at Alliance, Ohio, were taken

into Stark County Common Pleas Court, Canton, last week.

The latest episode in the tangled story of the once-prosperous plane-making company centered around C. G. Taylor, president of Taylorcraft, Inc., and designer of the light plane which bears his name, and the efforts of the anti-Taylor bloc in the company to move its operations from Alliance.

► **Taylor Victory**—Taylor and associates won a temporary victory Jan. 7 when Common Pleas Judge Paul G. Weber granted a temporary order, enjoining the anti-Taylor bloc from carrying out the alleged plans to transfer operations to another city.

Taylor was joined in the injunction suit by Ben J. Mauro of Pittsburgh, chairman of the board of directors, and two other shareholders, Mario Fontana and Roy Hubert, the four together claiming ownership of 6,375 shares of the company's 12,452 shares of stock.

The Taylor group charged that an opposing faction of officers and directors led by sales vice president O. F. Nesmith had conducted an illegal "rump" directors meeting Jan. 2, at which Taylor was fired as president, the executive committee was ordered abolished and the vote was taken to move out of Alliance.

► **Opposition Charges**—The petition said the meeting had been improperly called, that the actions taken were illegal and that the anti-Taylor group had usurped authority of the shareholders. Plaintiffs said they appealed for court aid because they feared that the proposed transfer of operations entailed expenditures which would make the company insolvent and cost them their investments.

Judge Weber's order maintains the status quo, pending a shareholders' meeting, to be called by Taylor and his associates. J. F. Gregg, of Grand Junction, Colo., a director and one of the six defendants, declared that his group had acted "within our legal rights after receiving legal advice."

He maintained alleged mismanagement by Taylor caused the present flare-up. He added that the payroll of the new concern had to be cut during the first week of the new year from 40 to 15 employees because there was no money to carry more personnel.

► **Gregg Claims**—Gregg declared that Taylor had left on an extended vacation, from which he since has returned, at a critical time for the company late last year and that Taylor had failed to do anything about moving the plant from its present quarters, as requested by the owners.

"Our present landlord," Gregg continued, "has asked us to vacate, and the directors felt it was time to take some action."

Gregg declared the meeting notices had been proper and met time requirements.

Mauro attended the meeting, but walked out "at a critical time," Gregg also asserted.

Taylorcraft, Inc., was organized by Taylor after the federal court ordered liquidation more than a year ago of the bankrupt Taylor Aviation Corp. Taylor founded the firm in 1936.

Annour & Co. bought the factory buildings, the machinery was sold to other manufacturers and Taylor purchased the patents.

## TEMCO Names 50 Dealers for Swift

Texas Engineering & Manufacturing Co., Dallas, has appointed approximately 50 factory dealers among aviation operators throughout the country, to handle sales, service, maintenance and spare parts for the two-place Swift 125 personal plane, Leonard Larson, Swift sales director has announced.

Approximately 1,400 Swifts are now flying, Larsen said, and sales have increased each month, since TEMCO resumed manufacture last July. Factory dealers will be authorized to appoint sales representatives, responsible to the dealers.

Larsen reports substantial orders for the Swift from 19 foreign countries, and predicts the plane's potential export market is greater than for any other two-placer.

Swift factory dealers named include:

Aircraft Sales Corporation, Detroit; Alamo Airline Service, Inc., San Antonio; B & G Air Service, Inc., Torrance, Calif.; Basse Malscott Aviation Co., South Charleston, W. Va.; Brumley Flying Service, Nashville; Buffalo Air-Park, Inc., Gardenville, N. Y.; Capitol Aircraft Sales, Clinton, Md.; Catlin-Hutchinson Flying Service, Oklahoma City; Central States Aero Service, Indianapolis; Civilian Aircraft Sales and Service, Syracuse, N. Y.; Clark's Flying Service, Nampa, Idaho; E. J. Conklin Aviation Corp., Richmond, Va.; French Aero Service, Washington Court House, Ohio; Gillis Flying Service, Billings, Mont.; Heasley Flying Service, Rosemead, Calif.; Kelley Flying Service, Fort Wayne, Ind.; Locke Airways, Des Moines, Iowa; W. F. Luke, Schenectady, N. Y.; Jerry De Nicola, Steubenville, Ohio; Northwest Aviation Sales, Inc.; Troutdale, Ore.; O'Brien Flying Service, Renton, Wash.; One-O-One Flying Club, Santa Anna, Calif.; Ossorghin Aviation Company, Reno, Nev.; Palo Alto Airport, Inc., Palo Alto, Calif.; Rapid Aviation, Rapid City, S. D.; Ryan Aviation Supply Co., Jackson, Miss.; Safair Flying Service, Teterboro, N. J.; Vernon E. Shoff, Benton Harbor, Mich.; Skykraft, Inc., Birmingham, Ala.; Smith, Kirkpatrick & Company, Inc., New York, N. Y.; Swift Air Service, San Diego, Calif.; Usselman Air Service, East St. Louis, Ill.; Utilite Corp., Philadelphia, Pa.; Wells Aircraft Sales, Hutchinson, Kan.; Yankee Airways, Portsmouth, N. H.; Charlesworth Flight, Inc., Ogden, Utah; Wiggins Airways, Norwood, Mass.; Northwest Aero Supply Co., South St. Paul, Minn.; Reaver Air Service, Panama City, Fla.; Wootton Aviation Industries, Inc., Orlando, Fla.; Brown Aircraft Sales, Lubbock, Tex.; Ted Yarbrough Aircraft Sales, Fort Worth; and Paul Cromelin Company, Augusta, Ga.

## Distributors Named

Appointment of twelve aviation supply houses as distributors for Narco Aviation Radio Equipment is announced by James Riddle, president of the National Aeronautical Corporation, Wings Field, Ambler, Pa.

Distributors include: Aero Service & Supply, Birmingham, Ala.; Aircraft Sales Co., Fort Worth, Tex.; Air Parts, Inc., Glendale, Calif.; Buffalo Aeronautical Corp., Buffalo, N. Y.; Durham Aircraft Service, Inc., Flushing, N. Y.; Flight, Inc., Cleveland, Ohio; General Aircraft Supply, Detroit, Mich.; Snyder Aircraft Corp., Chicago, Ill.; Supply Division, Inc., St. Louis, Mo.; Van Dusen Aircraft Supplies, Inc., Minneapolis, Minn.; Wallace Aircraft Co., Sarasota, Fla.; and A. W. Whitaker, Portland, Ore.

Radio equipment currently manufactured by National Aeronautical includes the Narco VTA-1, a 22 ounce VHF transmitter for personal planes, the Narco MB-1, 75 megacycle marker beacon receiver, and the Narco T-1 field strength tester for checking antenna output.

## NASAO Airports Meeting

Executive committee of the National Association of State Aviation Officials will meet in Washington, concurrently with the airport division of the American Road Builders Conference, Jan. 27 at the Mayflower Hotel. Jennings Randolph, former congressman, and president elect of the airport division, will preside at the division's luncheon meeting at which Rep. Clair Engle (R., Calif.) will speak on "Federal Government Participation in a Nation-wide System of Airports."

## Pilot Error?

Unofficial check of the recent crash of the Oregon Journal (Portland, Ore.) newspaper helicopter indicates possibility of pilot error.

C. S. Jackson, II, associate publisher, and Ambrose M. Cronin, Jr., Portland businessman, were killed when the helicopter, a Bell 47, crashed and burned on a golf course.

Reconstruction of the helicopter's load condition during the flight showed advanced forward center of gravity due to 400 lb. combined weight of the two men, a radio installed in the nose of the craft, and light fuel load of 10 gal. The pilot apparently turned downwind while hovering at 150 ft. in a 20-mph. breeze and, with the tail of the 'copter rising, failed to compensate a loss of vertical lift. Helicopter experts believe that had he reduced rotor pitch and sought immediate forward speed he would have recovered and avoided a severe landing.

## BRIEFING FOR DEALERS & DISTRIBUTORS

**RAILROAD BYPRODUCT**—Southwest Airmotive Co., Dallas, is getting some regular business in its aircraft radio shop from an unusual customer—the Missouri, Kansas, Texas railroad. The Katy has 10 of its engines equipped with narrow-band FM radio transceivers, and although these are posing some new problems, the SAC radiomen say that most maintenance is similar to that on aircraft radio.

**ARIZONA AIRMARKING**—Completion of 103 airmarkers in Arizona in the first six months of a campaign to mark every community of more than 100 population means that the drive is more than two-thirds completed. C. H. Challacombe, president of Airmen's Association which is sponsoring the job jointly with the Arizona Republic, Phoenix newspaper, says 22 additional towns have markers planned or under construction and the goal of 150 markers should be reached by late spring.

**NOISE COMMITTEE**—A new attack on the aircraft noise problem will be made through the Aircraft Research and Development Committee of the National Association of State Aviation Officials, recently named. Crocker Snow, Massachusetts aeronautics director, heads the group, which also includes Clarence Brown, Bill Anderson and Bill Lazarus, aeronautics directors, respectively, of Ohio, Pennsylvania and Florida.

**BLACKLISTING VIOLATORS**—Crackdown on private pilot violations may be anticipated from an agreement under which officials of CAB will furnish to the Florida State Aeronautics Department names and addresses of all persons charged with violations or found guilty of such violations before CAB, when the violations have taken place in Florida. The Florida State Aeronautics office plans to publish a list of violations reported, monthly, to airports and operators, primarily as a guide to operators for aircraft rentals blacklists. NASAO is now making a poll of other state aviation departments to see whether they will ask for similar lists of violations or charges in their states.

**ATS ROUNDUP**—Wayne Weishaar, secretary-treasurer of Aeronautical Training Society, has completed a survey which indicates that aircraft sales and service and flight school profits and dollar volume were down 15 to 20 percent in 1947 as compared to 1946 at some of the top fixed base operations in the country, with many individual losses much greater. Weishaar sees as one bright spot the fact that war surplus plane sales virtually ceased early in 1947, although most of these are still around "cluttering up the market" and will be for years. Fact that Stinson, with a good dealer margin policy, led personal plane sales for 1947 is seen as a likely indication that companies with lesser margins may increase them in the hope of emulating Stinson's success. Weishaar, generally regarded as one of the more canny aviation observers, expects the market will absorb about 20,000 planes in 1948, barring war or sharply accelerated inflation.

**MORE FOR THAN AGAINST**—CAA Washington office has sent out a second telegram to its field offices jacking them up on their reactionary attitude toward the safelight stall warning indicator. Indicator was originally developed under CAA sponsorship, and CAA has cooperated in the National Research Council's program of testing instructors and pilots with the indicator. But CAA inspectors and technical men in the field are reported discouraging installations in the field to a point where dealers and distributors for the new safety device are extremely unhappy. Apparently the letter written by Jim Johnson, Springfield, Mo., operator, to AVIATION WEEK (Dec. 29) relating his sad experience with a CAA inspector and a stall warning indicator is no isolated case.

**WILLIAMS ON CAA**—Creation of an autonomous Civil Aeronautics Authority was urged by Maj. Al Williams, Gulf Oil Corp. aviation manager and principal speaker at the recent meeting of the Texas State Aviation Association at Laredo. Williams asserted that as long as CAA is under the Department of Commerce it faces the same hampering that American air power faced while under control of the old surface forces. Neither aircraft industry, fixed base operator, nor flight or mechanic school wants a government subsidy, Williams declared. He called for long range planning for competitive bidding for flight training on a systematic basis. He also criticized the GI flight school contracts which still maintain 1945 price levels without escalation to take care of increased costs since that date.

—Alexander McSurely



# "The fate of the world sits on this rug"

— JOHN L. LEWIS

NOTE: Paste this editorial in your hat. Re-read it as you start to shiver the next time John L. Lewis cuts off the nation's coal supply.

"Labor monopoly" will mean much more to you then. But if you are worried enough you will get after your Congressman to do his part now—before the shivering starts.

★ ★ ★

## "The fate of the world sits on this rug."

*The men on the rug:* John L. Lewis, President of the United Mine Workers, who made the remark; Benjamin Fairless, President, United States Steel Corporation; George M. Humphrey, Chairman, Pittsburgh Consolidation Coal Company; Harry M. Moses, President, H. C. Frick Coke Company; Charles O'Neill, President, United Eastern Coal Sales Corporation; the late John O'Leary, International Vice President of the United Mine Workers; and John Owens, President, District No. 6 United Mine Workers.

*The place:* Room 800, Carlton Hotel, Washington, D. C.

*The time:* Last July during the "negotiation" of a new soft coal contract.

*The outcome:* Another whopping increase in wages and the price of coal, another hike in the cost of living, and a "contract" which binds the United Mine Workers only as long as they are "willing and able to work."

Mr. Lewis was right. The fate of the world did sit on the rug. In fact, it sat at Mr. Lewis' feet, for, as this editorial will explain and as the outcome shows, his power over coal is absolute.

Without coal modern industrial civilization collapses. Without Mr. Lewis' assent coal can not be mined. He has the nation and, in the years 1947-48, the world at his mercy.

The Taft-Hartley Act, good as it is, does nothing to check this kind of monopoly.

## The Taft-Hartley Act fails to protect the public in many major particulars.

Here are some of them.

1. Labor monopoly is promoted and protected by its continued exemption from the federal antitrust laws. Management has no such exemption and should not have.

2. Industry-wide bargaining, a kind of second-degree monopoly, is left virtually undisturbed. So is union-wide bargaining which extends the power of national unions far beyond a single industry.

3. Featherbedding, the art of getting paid for doing nothing, is left largely intact.

4. The menace of having local utility strikes wreck the health and safety of a community is left untouched. Postponement and persuasion are the only instruments provided to deal with strikes that would wreck the nation.

My purpose in citing these omissions from the Taft-Hartley Act is not to belittle the act or its framers. They did a most courageous and constructive job. They made a real start toward restoring a workable balance in industrial relations in the United States, so far as the law can do it. But they have not completed the job. Among their omissions the two discussed in the next sections of this editorial stand out above all others.

## II

### The most serious Taft-Hartley shortcoming is its failure to deal with labor monopoly.

Labor monopoly exists wherever a union is so strong that bargaining becomes a sham and the union virtually dictates its own terms.

If an employer or group of employers secures a monopoly or anything approaching a monopoly, prosecution for violation of the federal antitrust laws

is in order. That is as it should be, for monopoly means death to economic and political freedom.

But if a labor union secures complete monopoly control over an industry through control of its workers, that union remains above and beyond the antitrust laws. "The fate of the world sits on this rug." By that imperial attitude John L. Lewis fully demonstrated how obsolete is the notion that labor unions are weak and, therefore, need exemption from the antitrust laws. Through the United Mine Workers, Mr. Lewis controls about 90% of the coal miners. (No company controls more than 5% of the nation's coal output.) Wherever he sits he has at his feet the welfare of the whole nation.

Great international unions exercise a comparable measure of monopoly control in other basic industries—steel, transportation, and automobiles, for example.

These labor monopolies can destroy the nation if they are not themselves broken up. Witness the plight of France. There the Communists have found in the great labor monopolies an instrument for shaking the nation to its foundations.

## III

### The Taft-Hartley Act also leaves untouched industry-wide collective bargaining, which is a kind of second-degree monopoly.

When all or almost all of the employers in an industry get together with the union leaders to agree on wages and working conditions (that is called industry-wide bargaining) they set up a monopoly control. It is a less concentrated monopoly than when the terms are dictated by either side, as Lewis dictates them in coal. But, nonetheless, competition is eliminated and monopoly control is established over wages, which are by far the largest element in the cost of production. It follows that public regulation of collective bargaining—which means the end of free unions and free management—is not far behind.

Some employers defend industry-wide bargaining as their only defense against industry-wide unions. Other employers like it because it makes wages and hours uniform for their whole industry.

For those employers who are forced into industry-wide bargaining in self-defense the road to relief is clear. Congress owes it to them and to the public to free them from the necessity of dealing with a monopolistic union. The best way to do that is to remove the exemption of labor unions from the federal antitrust laws.

To those employers who engage in industry-wide bargaining because they like it the proper answer is also quite clear. They (and the union involved) are maintaining a private monopoly which is offensive to the public interest. It should be prevented by law.

## IV

### Congress should finish the job of eliminating labor monopoly and industry-wide bargaining.

In the course of enacting the Taft-Hartley law last spring the House acted to eliminate the exemption of unions from the federal antitrust laws and to make industry-wide bargaining illegal. The Senate, however, refused to go along.

The principal reason advanced in the Senate for deferring action was that more knowledge is required to legislate intelligently. To get the needed information, a joint Congressional committee was created.

It is standard Congressional practice to stall off tackling a difficult job by creating a special committee to study it. The new joint committee is not likely to prove an exception to this rule—unless the voters loudly demand of Congress that it get on with its job of protecting the public interest in the conduct of labor relations—a job which is nowhere near done.

Helpful and effective as many of its provisions are, the Taft-Hartley Act does not face squarely the central principle of industrial relations in a free society. That principle is this: *Neither employers nor organized workers, separately or in combination, shall exploit the public by establishing a monopoly.*

Do not let your Congressmen go to sleep on the job of solving that problem or hide from it because of fear. The perfect solution may be hard to find. But the problem can be largely solved by making organized labor subject to the federal antitrust laws just as management is now subject to them. If that problem goes by default your children and your grandchildren will really know what slave labor means.



President, McGraw-Hill Publishing Company, Inc.

THIS IS THE 64TH OF A SERIES



## General Motors Planning to Sell Bendix Aviation Stock Interest

GM participation in aviation industry continues through North American Aviation and Allison engine development as profitable Bendix phase ends.

Pending disposition by General Motors Corp. of its stock interest in Bendix Aviation Corp. represents the completion of another profitable phase in the automotive company's association with aviation.

General Motors has filed a registration statement with the Securities and Exchange Commission for the sale of its remaining 399,900 shares or 18.9 percent of the outstanding stock of Bendix. At current market prices, this would indicate a total valuation of almost \$12 million.

**► Statement on Bendix**—In April, 1929, General Motors acquired 500,000 shares, or 23.84 percent of the stock of Bendix for \$15 million in cash and the conveyance of all assets of Delco Aviation Corp. and granting of licenses for aviation purposes under General Motors' aviation patents and inventions. This entire investment was valued at \$15,091,217 Dec. 31, 1929. In commenting on this purchase, General Motors stated: "Bendix Aviation Corp. has a highly qualified technical organization and its opportunities are great for further development. . . . It is believed that this acquisition will result in benefit to the corporation in many ways, in addition to the employment of capital with a satisfactory return."

Almost nine years later, General Motors now declares: ". . . We have come to the conclusion that such acquisition and operation does not seem feasible. . . ." In this process, however, the automotive company's capital has been profitably employed in the Bendix investment. Estimates place dividend income along with proceeds from previous and current stock sales at about twice the purchase price expended by the automotive combine.

General Motors Corp. continues potent participation in the aviation industry through its investment in North American Aviation, Inc., as well as through the development of the Allison engine.

By all standards, General Motors most profitable commitment in aviation was made in the predecessor unit

which later helped form North American Aviation. In 1929, the automobile giant was treading softly into the aviation field. When it acquired 400,000 shares of Fokker Aircraft Corp. of America (name later changed to General Aviation Corp.), its annual report somewhat timidly remarked: "What the future of the airplane may be, no one can positively state at this time. Through this association General Motors will be able to evaluate the development of the industry and determine its future policies with a more definite knowledge of the facts."

**► Knowledge Was Profitable**—General Motors made this knowledge pay in a very substantial way. At one time, this corporation held indirect participations in wide segments of the aviation group. By Mar. 31, 1933, it had increased its holdings in General Aviation Corp. to 476,500 shares. At about the same time, General Motors also became interested in North American Aviation, Inc., and in April, 1933, acquired 300,311 shares or 8.7 percent of the company's outstanding stock. During the same month, General Aviation Corp. exchanged substantially all of its assets for a 43.3 percent interest in North American Aviation. As a result, General Motors participation in aviation was somewhat simplified. Through other sundry steps, it came up with ownership of 1,015,061 shares or 29.6 percent of North American Aviation, Inc., as of Dec. 31, 1934.

In January, 1934, North American owned:

1. 52 percent of the stock of Western Air Express Corp., which owned all the issued stock of Western Air Express, Inc., and 47.6 percent of the stock of Transcontinental & Western Air, Inc.
2. 27 percent of the stock of Transcontinental Air Transport, Inc., a holding company whose principal asset was 47.6 percent of the stock of Transcontinental & Western Air, Inc.
3. 19 percent of the stock of Douglas Aircraft, Inc.

4. 100 percent of the stock of Eastern Air Transport, Inc. (later to become Eastern Air Lines, Inc.).
5. 100 percent of the stock of General Aviation Manufacturing Corp., which was engaged in building Army and Navy planes at the B-J plant at Dundalk, Md.

GM sold its stock interest in Douglas Aircraft at profit of about \$1.2 million.

The 279,544 shares of Transcontinental and Western Air, Inc., which North American subsequently received through liquidation of Transcontinental Air Transport, Inc., were distributed to the stockholders of the latter company Feb. 15, 1935. As a result, General Motors received 81,204 shares or 13 percent and was in virtual control of TWA. In the same year, General Motors sold this stock to Lehman Bros. and Atlas Corp. for an indicated price of about \$1,200,000.

**► Preference for Manufacturing**—Ever turning to manufacturing in preference to air transport activities, General Motors was completely out of the transport field in 1938 when North American sold its Eastern Air Transport division for \$3,500,000 to a syndicate headed by Captain Eddie Rickenbacker.

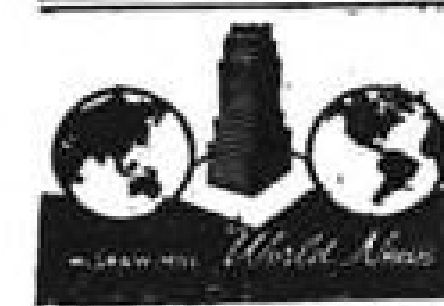
At the end of 1938, General Motors owned 1,000,061 shares or 29.11 percent of the stock of North American Aviation, Inc., which was carried on the books at \$4,510,611. General Motors continues to hold the same stock participation. Dividend income in the intervening years, however, has more than exceeded the amount of its previously stated investment. With the current market value of the North American stock running at around \$9 per share, the General Motors' investment has an indicated valuation of more than \$9 million.

This North American Aviation investment has permitted General Motors to eat its cake and have it as well.

The operations concerning the Allison engine are lost in the corporate maze surrounding the financial statements issued by General Motors, with few details as to the extent of its profitability publicly available. However, the Allison engine was very prominent in volume orders in powering aircraft produced during the war and continues as a major powerplant in airplanes being built today.

General Motors has done well in aviation. It is difficult to predict what the entire aviation picture—air transport and manufacturing—would have been had the company not divested itself of the sundry holdings in previous years. The facts remain, however, that General Motors has made aviation pay and continues to have a profitable participation in the industry.

—Selig Altschul



## Enlargement Planned For Kastrup Airport

**COPENHAGEN**—In an effort to keep abreast of larger transoceanic aircraft, Danish Civil Air officials have plans to enlarge the international airport at Kastrup, Denmark. Under this new plan all runways will be extended and airport and hangar facilities added to service airliners up to 150,000 lb. gross weight. Present runways will hold aircraft up to the Stratocruisers in gross weight, but are too short.

About four hangars are to be built and at least one will be able to service Constellations and Stratocruisers. The administration building is to be enlarged and supplementary buildings added.

Present radio facilities include a radio range station with a "Z" marker. There is an MF/DF station for QDM instrument approaches and as a radio aid. There are many radio beacons in the proximity of the field. Kastrup has ILS and sodium approach lights. Bartow High Intensity approach lights are to be added at an indefinite time. There is no plan to add GCA.

Some runway construction has begun. The Danish Civil Air department estimates that about two years will be required to complete the enlargement. But at least one runway is expected to be ready as soon as Stratocruisers start scheduled operation.

At present DC-4s, DC-3s, JU-52s and smaller aircraft operate into Kastrup. It is currently used as a primary alternate for Stockholm, Oslo, Bremen, Frankfurt, Brussels and Amsterdam. Its use as a secondary alternate for Paris, Prestwick and London gives it an important role in trans-Atlantic airline operation.

## Sports by Air

**JOHANNESBURG**—Because of long distances between big centers, air travel is being used more and more by South African sporting teams to reduce players' absences from work and home. Recent patrons included a South African tennis team flown to Europe and back, the Transvaal rugby team which created a precedent by flying to Cape Town for national rugby finals, and a Northern Transvaal rugby team which flew to Rhodesia, cutting to a weekend an absence that otherwise would have been eleven days.

## Prague Letters:

## Czechs Seek More Air Pacts

**PRAGUE**—This city is air-mindedly conscious of her central position as an undamaged attractive Allied capital only a few hours from anywhere in Europe. Much of 1947's intensive air activity has been born in the Ministry of Foreign Trade, where not long ago was signed the most important and extensive Air Transport Agreement so far, between Czechoslovakia and Great Britain. Czechoslovakia Airlines may now land at Glasgow as well as London, and BEA at Bratislava as well as Prague.

The Czechoslovak-British Air Agreement follows ratification of the Chicago Convention on International Civil Aviation, and other agreements with Poland, Turkey, Denmark, Hungary, Holland, the USSR's "Aeroflot," Switzerland and Sweden. Agreement with Yugoslavia was ready for signature last month, and similar agreements are under discussion with Norway, Belgium, Greece, Bulgaria, Egypt, the Lebanon, Iran and Iraq. The Minister of Transport, Dr. I. Pietor, is on a visit this winter to Turkey, Lebanon, Palestine and Egypt to discuss agreements, and schedules for future Czechoslovak routes. In January-February a delegation is due to go to Bombay and South Africa with the same aim. Some favor revision of the air agreement with the U. S. to bring it up to date.

The Czechoslovak Airlines, which since the end of the war has been run by the State, is to be reorganized into a "Narodni Podnik," those familiar words seen on most key industrial or important concerns, which mean "National Enterprise."

To date Czechoslovak Airlines has used only twin-engined Dakotas bought from the U. S. Army surplus, and with these is maintaining services with all European capitals, the Middle East and Cairo. In July it submitted a proposal to the government for the purchase of three 4-engined aircraft,

as the first step in renewing its aircraft reserves. Three planes—Lockheed Constellation, Douglas DC-6 and Canadair—were demonstrated in Prague. Apparently only the Lockheed and Canadair are now under consideration. But it seems that the dollar shortage, seriously aggravated by bad drought and the need to give priority to food imports, has held up the purchase. Negotiations are still in progress.

\* \* \*

The Czech sail-plane "Krajanek," flown by Czech ex-RAF. Pilot Marmol, created a new endurance record of 25 hr. 5 min. in England.

These "Krajaneks" are now being used to a great extent in the seven Czechoslovak gliding centers which, together with the 306 Aeroclubs in the country, lost all their equipment during the war. At first the gliding centers made do with old



Czech "Krajanek" sail-plane

German material. The Aeroclubs are flying mostly Piper Cubs, some 200 of them bought from U. S. Army surplus.

\* \* \*

The Ruzyn airdrome, a few miles from the center of Prague, has its place in the Czech Two-Year Plan. During 1947 83 million crowns (\$1,660,000) were spent on Czech airdromes generally, and in 1948 240 million crowns (nearly \$5,000,000) will be outlaid. Nearly \$3,000,000 of this will go to Ruzyn, which is to be extended by 845 acres, doubling its area.

—Elizabeth Fisher



# AIR TRANSPORT

## President's Policy Group Urges More Financial Aid to Airlines

Establishment of independent safety board favored together with expansion of CAB to seven members; longer test periods for new transports recommended.

By CHARLES ADAMS

Loosening of the federal purse strings to place the air transport industry on a firm footing both to provide adequate service for the public and to implement its role as a potential military auxiliary keynoted recommendations made last week by the President's Air Policy Commission.

The Commission, headed by Thomas K. Finletter, stated bluntly that the government will have to increase mail pay if the carriers are to continue operating effectively. Financial burden of providing and maintaining airports, air traffic control, navigation and landing aids must be assumed by the federal government until the airlines are in a position to pay their fair share, the report emphasized.

► **New Planes**—Recognizing that the transport industry is unable to finance development of needed new planes—especially cargo types—the Commission urged that a Government Aircraft Development Corporation be set up. The corporation would be authorized to pay all or part of the experimental cost of cargo and other non-military planes, components, navigational aids and safety appliances which the board of directors feels are necessary in the national interest but cannot be developed by private enterprise.

"We consider that direct government financial aid to commercial airlines is fully justified on grounds of national security and economic welfare," the Finletter group emphasized. "We believe this country's air transport system can, with such aid now, become self-supporting. We are convinced any impartial investigators would indorse the use of public funds to obtain such a sound air transport system. This means the granting of subsidies for an additional period."

► **Electronic Aids**—"Larger expenditures for electronic aids to air traffic control, navigation and landing will do more than anything else foreseeable today to build the airlines toward economic self-sufficiency," the report stated.

"We believe government money can be spent more productively on the means for increasing regularity of operation than by increasing subsidy payments to support additional competition in the present airline system."

With an eye to boosting airline revenues, the report recommended that Congress give serious consideration to the carriage by air of all first-class mail which would be expedited by plane service. The Commission suggested that this development, together with inauguration of air parcel post, should come when the airlines have achieved a "satisfactory regulatory status."

► **High Volume**—Carriage by air of all first-class mail which could be expedited thereby would boost domestic volume by about eight times in pounds and over five times in ton miles. Domestic air-mail volume in fiscal 1947 was 33,000,000 ton miles, and the Post Office estimated an additional 146,000,000 ton miles of first-class mail could have been expedited by air.

Hauling first-class mail by air without surcharge, whenever delivery can be expedited thereby, will involve an additional cost to the government of about \$96,000,000, according to the Post Office Department. This loss would come from a decrease in the present profit made on first class three-cent mail—a profit which now subsidizes the carriage of other classes of mail.

► **CAB Changes**—Apparently worried by CAB's slow-moving procedure (especially in rate cases), and the huge backlog of dockets, the Commission made recommendations designed to bolster and streamline the Board. "We believe," the report declared, "that the transfer of safety functions out of the Board, an increase in the Board's staff, and an increase in the number of Board members are desirable."

Membership on the Civil Aeronautics Board would be increased from five to seven in order that the practice of the Interstate Commerce Commission of operation by divisions may be

adopted. Some members would focus their attention primarily on rate cases. The Commission also recommended that CAB members' salaries be lifted from \$10,000 to \$15,000 a year.

► **Safety Board**—The three members of the new Air Safety Board would be appointed by the President subject to confirmation by the Senate. They would investigate and analyze all accidents.

The Finletter group suggested that CAB defer for a short time decisions in new route cases. This, the report emphasized, should not be confused with a freezing of the present route pattern, "which would certainly be undesirable."

► **Route Policy**—Noting that there is "widespread confusion" as to the principles which guide CAB in its route determinations, the Commission called for a comprehensive survey of the present situation and the development of a more cohesive philosophy. The resulting clarification of policy should bring about acceleration of subsequent route decisions, the report declared.

As part of such a review, the Finletter group urged that CAB use any present legal powers, such as suspension or reduction of needed mail payments, to deal with routes no longer required by public convenience and necessity. This, the report said, would be preferable to causing instability in the industry through granting CAB the right of outright revocation of routes.

► **Transfer of Power**—Significantly, the Commission suggested that if CAB is found unwilling or unable to develop a more clear-cut plan for the domestic air transport pattern, Congress should consider giving the over-all planning functions or route developments to a Secretary of Civil Aviation, a new functionary under the Secretary of Commerce. The report agreed that removing route planning from CAB posed numerous difficulties and thus recommended that the Board be given every opportunity to meet its responsibilities.

A recommendation that CAB use caution in certificating any new carriers, including all-cargo lines, was made by the Finletter group. "Our major problem," the Committee declared, "is to get the regular [passenger-carrying] airlines started up the ladder toward self-sufficiency."

► **New Carriers**—"To advocate at this time the entry into the field of a large number of new carriers would certainly seem to postpone rather than hasten the attainment of self-sufficiency in the industry. We believe that in deciding on certificates for new cargo operations CAB should avoid impairing the soundness of the existing air transport system by spreading the present and potential traffic among too many separate carriers."

"If the Board finds that some additional common carrier operators are required, we hope that it will give weight to the record built up by any of those contract operators that have proved their ability to operate economically and efficiently."

► **Feeder Problem**—The Commission said there is a real need for feederlines in areas where topographical features make surface connections between cities unsatisfactory. It recommended that the present experimental period for feeders remain at three years unless it becomes evident that this period can be extended without burdensome mail pay expense. "New certificates, if any, should be granted for five years."

Contract carriers, according to the Finletter group, should be brought under CAB's economical control. The Commission also noted "with concern" the lack of considerations for safety shown by some contract (and non-scheduled) lines.

► **Surface Carriers**—A policy which would prevent surface carriers from gaining control of the air transport system, or an important segment of it, was urged on CAB. The Finletter report said, however, that individual progressive surface carriers desirous of developing air transport as part of a coordinated service should not be barred automatically from such action. Congressional legislation clarifying the surface carriers' position in air transportation was recommended.

The report agreed with CAB that the present policy of limited competition among American carriers on the international routes is preferable to a "community company" monopoly. "We do not believe that competing U.S. carriers will be driven from the skies by heavily-subsidized, low-cost foreign lines. We believe our international operators should receive such government aid as will permit them to compete effectively with their foreign rivals."

► **Civil Aviation Department**—A recommendation that a Department of Civil Aviation be set up under the direction of the Secretary of Commerce was one of the report's highlights. A Secretary of Civil Aviation would head the Department, which would take over the functions of the Civil Aeronautics Administration.

The Secretary of Civil Aviation would have the responsibility of initiating this country's broad domestic and foreign civil aviation policy, subject to the direction of his superior officer, the Secretary of Commerce, who in turn would consult with the Secretary of State on foreign policy matters. The Secretary of Civil Aviation also would have the responsibility of making recommendations with respect to mo-



LANDIS LEAVES

Florida-bound with CAB's problems behind him, James M. Landis, former board chairman, bade a smiling good-bye to his colleague, Vice Chairman Oswald Ryan. The leave-taking followed a party in Landis' honor.

bilization of the aviation and air transport industries during emergencies.

► **Coordination Urged**—The Finletter group saw a need for early executive coordination in the entire field of transportation. Establishment of the Department of Civil Aviation within the Department of Commerce would provide the structure that can later be used to combine all executive transportation functions within one Department of Transportation. Independent and semi-judicial bodies in the transportation field (such as CAB) would be within the Department of Transportation for housekeeping purposes only.

The proposed Government Aircraft Development Corp. also would be set up within the Department of Civil Aviation. The corporation's board of directors would consist of five members with the Secretary of Civil Aviation as chairman. The Secretary of the Air Force would be a member, and one other member would be appointed by the Secretary of National Defense. The Secretary of Commerce would appoint a fourth member, and these four would choose a fifth.

► **Accident Reports**—Both the new Air Safety Board and the Civil Aeronautics Board would be within the Depart-

ment of Civil Aviation for housekeeping purposes only. The Safety Board's accident reports would be submitted to the Secretary of Civil Aviation.

In line with its recommendations for an independent air safety board, the Commission urged that new types of transport planes be operated regularly on nonpassenger schedules for a specified mileage before passengers are carried. The Finletter group noted that "events have proved that test periods in the past have not been long enough."

"The new test period should be sufficiently long to permit mechanical or design weaknesses to become apparent under normal operating conditions. We suggest that the test airplanes be operated regularly on cargo and mail runs over approximately the same routes and using the same airports that will be utilized later. . . ."

### Alaska Airlines Ruling

Alaska Airlines, Anchorage, has been ordered to cease and desist from carrying persons on a common carrier basis between Alaskan points and points in continental U. S. Charter trips (not to exceed eight monthly between any two points) may be flown at irregular intervals, CAB said.



## Transocean Fights Penalty by CAB

Transocean Air Lines, Oakland, Calif., one of the nation's largest uncertificated carriers, has been ordered to show cause why its letter of registration as an irregular operator should not be suspended or revoked for "knowing and wilful violation of the Civil Aeronautics Act."

The Civil Aeronautics Board charged that TAL has been holding itself out to the public as operating regular and frequent cargo service between the New York area and Brussels, Belgium, and London. The company also was said to be engaging in common carrier foreign transportation of persons—particularly between California and Okinawa and

between Guam and Okinawa—after Sept. 10, 1947, when such operations became illegal.

Transocean will have until Jan. 22 to show cause why its letter of registration as an irregular carrier should not be suspended pending a CAB decision on the matter of revocation. The airline maintains it has kept its common carrier activities greatly restricted and within the bounds of the board's nonscheduled exemption.

In addition to its common carrier services under the nonscheduled exemption, TAL has contracts to fly emigrants from England to Canada for the Canadian government and to fly construction personnel to Guam and Okinawa for the U. S. Army Corps of Engineers. The company operates 10 DC-4s.

## Georgia Crash Jars Nonscheds

**Coastal Air Lines mishap recalls much-criticized Burke accident last July.**

Crash of a "chartered" Coastal Air Lines DC-3 into the marshes 10 miles southeast of Savannah, Ga., early this month has cast new suspicion on the maintenance and operations standards of uncertificated carriers flying passengers in transport-type equipment.

Circumstances surrounding the latest mishap showed a striking parallel to those disclosed by investigations following the Burke Air Transport DC-3 accident in a swamp near Melbourne, Fla., last July 13 (AVIATION WEEK, Oct. 6 and Dec. 29). The Coastal crash resulted in the death of 17 persons and injury to 10 others. Fourteen persons, mostly homeward-bound Puerto Ricans, were killed in the Burke mishap.

► **Engines Suspected**—The Coastal Air Lines plane—also carrying Puerto Ricans—was bound from Newark to Miami. Survivors said the engines had sounded "rough" from the time the craft left Philadelphia.

Shortly after the accident, the Civil Aeronautics Administration reported that Coastal Air Lines, Inc., Philadelphia, Pa., had been charged with violating a series of regulations on three previous occasions. There was, however, no suggestion that the Savannah accident was caused by rule violations since the investigation has not been completed.

► **Violations Listed**—On Aug. 21, 1947, CAA inspectors in the Miami area reported these alleged violations by Coastal: 1. A co-pilot had flown in excess of the maximum hours permitted; 2. Manifests not properly executed; no flight record aboard; 4. No inspection

within preceding 100 hours; 5. Aircraft overloaded.

On Aug. 27, 1947, a Coastal plane was reported taxiing for takeoff with: 1. Left tire in bad condition; 2. Left engine cowl flaps inoperative; 3. Right engine gasoline line leaking; 4. Elevator surfaces cracked; 5. Right aileron surface "very bad"; 6. Fabric surfaces in bad state of repair; 7. Manifest not properly executed; 8. No check list in pilot's compartment; 9. Baggage improperly secured; 10. Aircraft overloaded.

On Dec. 22, 1947 (following a crash landing), these violations were alleged: 1. Overloading by 1,600 lb.; 2. Insufficient fuel; 3. Pilot had flown in excess of time permitted; 4. Pilot had filed a flight plan with an alternate field at which weather was below minimums. ► **No Penalties**—All these charges were in the course of being "processed" at the time of the Savannah accident, CAA stated. No penalties had been ordered.

CAB last month found that the probable cause of the Burke Air Transport crash in Florida "was the pilots' flying for long periods of time without adequate rest." (Overtime flying by Coastal pilots is noted twice above.) The Burke plane was overloaded and engine parts were found to be defective.

► **Checks Made**—Flight log of the Burke DC-3 had indicated more than 100 hours between inspections, and the logs were not completely filled out. As a result of the Burke accident, CAA inspectors made a flurry of spot checks on other uncertificated carriers in the Miami area and found that Burke had a "fair sample operation."

A Senate investigator, reporting on the Burke crash, had recommended drastic action against the uncertificated

## Cargo Links Sought By Strato-Freight, Inc.

Strato-Freight, Inc., Pittsfield, Mass., has asked CAB for a temporary or permanent certificate for service between Boston and Chicago via Hartford, Bridgeport, New York, Cleveland and Detroit. The company now operates on a nonscheduled basis with one DC-3 and one C-46. Another C-46 is to be acquired shortly, according to Harry L. Francis, president.

## Record Airfreight

Airfreight totaling 10,960,237 ton miles, flown by American Airlines, in the first 11 months, set a new all-time high for a year by a scheduled air carrier, the airline announced recently.

carriers and said CAA inspectors should be censured for countenancing such operations. He called for a comprehensive investigation of lax nonscheduled and charter air carriers. CAA officials in the Miami area pointed out that they had insufficient inspectors to police the swarm of uncertificated lines flying transport-type equipment.

► **CAB Drive**—A year ago, after a rash of accidents involving uncertificated operators, safety regulations were tightened, and CAB intensified its drive against lines violating the nonscheduled exemption. As a result, many companies went out of business or drastically curtailed their services.

Last September, American Air Export & Import Co., Miami Springs, Fla., petitioned CAB to suspend or revoke the letters of registration of eight other uncertificated lines on the New York-San Juan route. AAXICO charged its competitors with conspiring to avoid the filing of passenger tariffs in accordance with CAB's Economic Regulations.

► **Low Fares**—The AAXICO petition also stated: "Fares charged by the respondents between New York and Puerto Rico are so low as to be a menace to the public in that under such fares no reserve can be set aside for maintenance, repairs, engine changes and regular operation, as a result of which faulty equipment is being used. Flying passengers at cut-rate fares necessitates the overloading of a plane in order to make a profit and also compels the carrier to require his air crew to fly more hours than safety permits."

Survivors of the Coastal Air Lines DC-3 crash said they paid \$57 for their one-way ticket. By comparison, Pan American Airways and Eastern Air Lines, which are certificated between New York and San Juan, charge about \$116 plus tax one way.

## SHORTLINES

► **American**—Was slated to inaugurate service to Richmond, Va., beginning Jan. 18.

► **British Commonwealth Pacific Airlines**—Will take over Australia's trans-Pacific service to the United States and Canada on Apr. 21. The operation is now conducted by Australian National Airways, a private company.

► **BOAC**—Is reportedly contemplating the purchase of DC-4M North Star aircraft from Canadair Ltd., Montreal, if London refuses to order more Constellations.

► **California Eastern**—Has moved to larger quarters in the former TWA hangar at Lockheed Air Terminal to handle its Los Angeles area service. The Chicago base has been shifted to the former Army ATC freight dock at the Municipal Airport.

► **Capital (PCA)**—Cargo load factor (representing the proportion of available plane cargo space used for freight, express and mail) was 60 percent in 1947 compared to 5 percent in 1946. Company flew 23,982,740 lb. of cargo 5,276,784 ton miles last year.

► **Florida Airways**—Celebrated its first anniversary on Jan. 10. Carrier's Beech D18Cs flew 7,921 passengers, 2,800,000 pieces of mail and 41,300 lb. of express during the 12-month period.

► **KLM**—Turnover increased from 68,000,000 guilders in 1946 to about 94,000,000 guilders last year as the company's route network increased from 39,000 to 62,000 miles. Traffic results for the first nine months of 1947 compared with the like 1946 period showed hours flown gained 30 percent, plane miles flown 40 percent, revenue passengers 4 percent, freight 104 percent and mail 32 percent. Equipment during 1947 was augmented by delivery of 14 DC-3s, two L-49 Constellations and 11 L-749 Constellations. Seven DC-6s and 12 Convair 240s are to be delivered this year.

► **Mid-Continent**—Plans to start serving its 30th city—Quincy, Ill.—on Jan. 22.

► **Pan American**—Flew 62,000 passengers across the Atlantic in 1947 compared to 27,300 in 1946. Last year's traffic was divided 39,700 westbound and 22,300 eastbound.

► **Trans-Canada**—Passenger traffic in 1947 was up 50 percent and cargo volume rose 35 percent over 1946. Company added over 1,200 miles to its routes in the past year.

► **Trans-Texas**—Was scheduled to start service to Del Rio, Tex., last week.

► **United**—Revenue passenger miles totaled 74,411,200 in December, down 11 percent from the same 1946 period.

Revenue plane miles were down 1 percent.

► **Wisconsin Central**—Is slated to start feeder service early next month.

## Piedmont Names Golson General Traffic Manager

Piedmont Airlines, Winston-Salem, N. C., has announced further staff appointments preparatory to inaugurating service over its 1,750 miles of feeder routes extending from Norfolk, Va., to Cincinnati.

Lee W. Golson has been named general traffic manager and G. C. Brown, Jr., has become assistant traffic manager.

Both were formerly with Eastern Air Lines. Lester A. Watson was appointed superintendent of communications.

Other personnel developments:

• **American Overseas**—J. Stanton Robbins, vice president and European general manager, has resigned.  
• **Braniff**—Richard N. Bale has become executive representative in Lima, Peru.  
• **Capital (PCA)**—Stuart B. Goldthorpe, formerly chief accountant, has been named assistant comptroller.  
• **Chicago & Southern**—Roy B. Whitney, director of passenger service, has resigned.  
• **Northwest**—Edward J. Reynolds has become California traffic manager with headquarters in San Francisco.  
• **Pan American**—William H. Pace, Jr., has been appointed assistant to the general sales manager.  
• **TWA**—Sam Henry, Jr., has become U. S. advertising manager.



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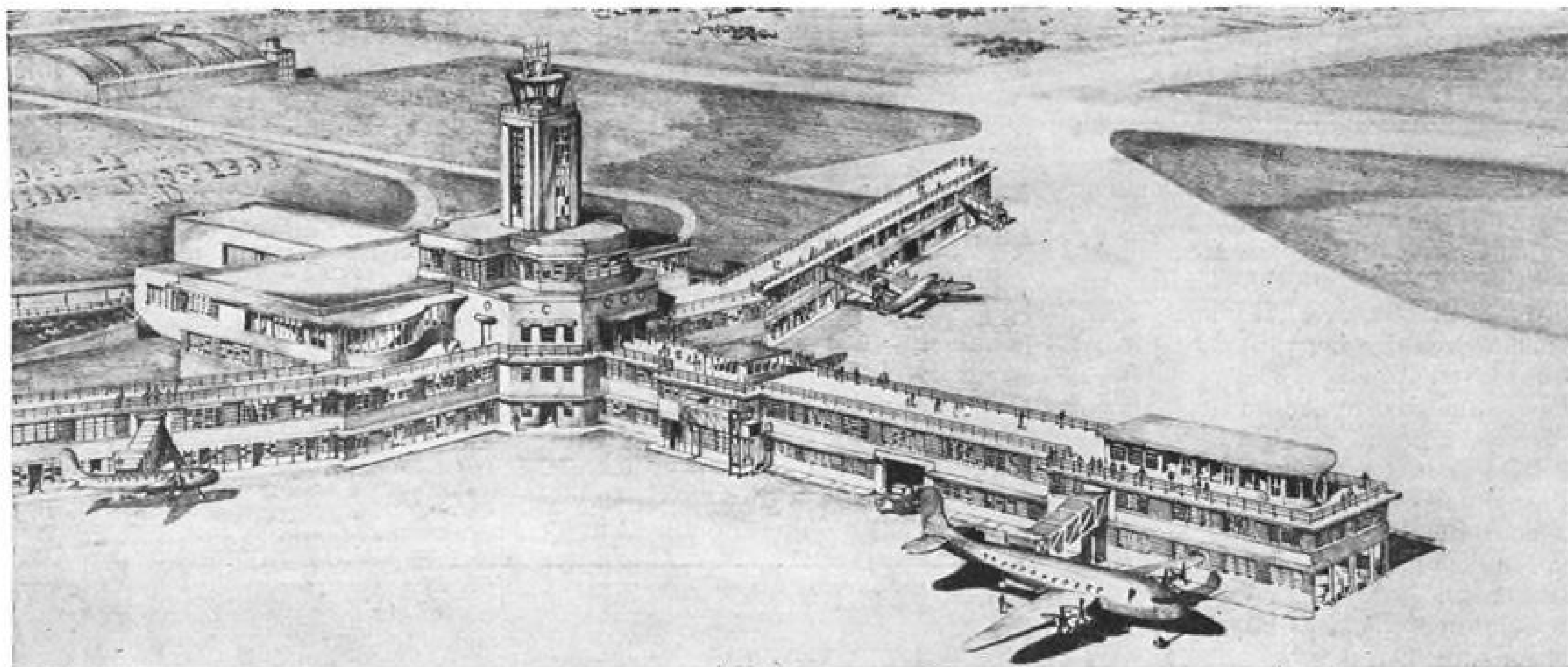
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Drawing of the proposed terminal building at Baltimore Friendship Airport shows inclosed ramps by which passengers will be loaded directly to their planes from the second floor lobby. Roomettes, with valet or maid service, and baths and barber or beauty shops adjoining, will be provided for passengers forced to stay at the airport. A small number of roomettes will be installed initially, with provision for expansion if they become popular.

## Baltimore Pushes New Airport

**Designers seek to combine maximum utility with minimum expense to taxpayers.**

One of the largest and most modern airports on the East Coast is taking shape at Baltimore, Md., where engineers have sought to solve the difficult problem of providing maximum utility for the visitor, passenger and airline, combined with minimum annual expense for the taxpayer.

Located on a 3,000-acre site nine miles southwest of the city, Baltimore Friendship Airport is designed for low operating costs, high non-aviation revenue and induced traffic due to added passenger convenience. The field, including a terminal building with loading space for ten planes, is expected to cost around \$13,000,000.

► **Large Runways**—Biggest of the three paved runways will be 8,000 ft. long and 200 ft. wide and will be graded 500 ft. wide. Extension to 10,000 ft. may be made later.

A second runway is to be paved 6,500 ft. long and 150 ft. wide, with provision for extension to 8,000 ft. The third runway will be paved 6,000 ft. long and 150 ft. wide and can be extended to 8,000 ft.

► **Design Principles**—In designing the Baltimore Friendship Airport, the following precepts were laid down:

1. The field should have every opportunity to make money through low operating cost and high non-aviation revenue.

2. Passenger walking distance should be short, under cover, and with few stairs to negotiate. To this end, planes

must come in to the closest open berth.

3. Incoming and departing passengers, domestic and international, should pass through the terminal building to give non-aviation sources of revenue full support.

4. Passengers should pass through on the lobby level and not have to wander through areas normally needed for baggage, mail, food handling or plane servicing.

5. A passenger should be able to purchase his ticket at a consolidated ticket office.

6. Ramp equipment should be consolidated, as far as possible, into one extensible gangplank, along which passengers can walk, under protection from the elements, from plane door to the lobby level of the terminal building. Fuel lines, air hoses, electric wires and other utilities should reach planeside by way of the lower level of such a structure.

7. Temporary sleeping facilities, in the form of roomettes, should be provided.

8. Ample promenade space should be available, where visitors may watch plane arrivals and departures, particularly international, from close range.

9. Traffic of light trucks, tractor-drawn carts, and other small service vehicles should move freely to and from planeside without crossing the path of moving planes.

10. Dining room, bar, coffee shop, concessions and other spaces should be designed on a functional basis commensurate with the importance of the city, capable of making money, yet not overly expensive or grandiose.

### Hostess Survey

The fabulously high airline hostess quit-rate is going down, according to Braniff Airways.

During 1945 there was a 100 percent change in hostess personnel employed by the carrier, but in the past 12 months only one-third of the women have resigned. Of these, about 75 percent traded their jobs for matrimony. At the end of the war, the average Braniff hostess was 22 years old, while the average age is now 23.5.

### CAB SCHEDULE

Jan. 19. Hearing on requests of Braniff and Chicago & Southern for removal of restrictions on Chicago-Houston service. (Docket 1681 et al.)

Jan. 19. Oral argument on exemption of cargo carriers between Alaska and continental U. S. (Proposed section 292.7 of Economic Regulations).

Jan. 27. Hearing on TACA, S. A., foreign air carrier permit renewal and amendment case. (Dockets 3016 and 3017.)

Feb. 2. Hearing on board's investigation of airfreight rates. (Docket 1705 et al.)

Feb. 4. Hearing on Continental Air Lines' route consolidation case. (Docket 576 et al.)

Feb. 9. Hearing on Mid-Continent's application for alternate Kansas City-New Orleans route. (Docket 1956.)

Feb. 21. Hearing on Mid-Continent's Minot, N. D.-Regina, Saskatchewan, route case. (Docket 628.)

### Helicopter Bid

John Fabick Tractor Co., St. Louis, is seeking CAB authority to conduct helicopter passenger and cargo service within a 100-mile radius of St. Louis.

AVIATION WEEK, January 19, 1948

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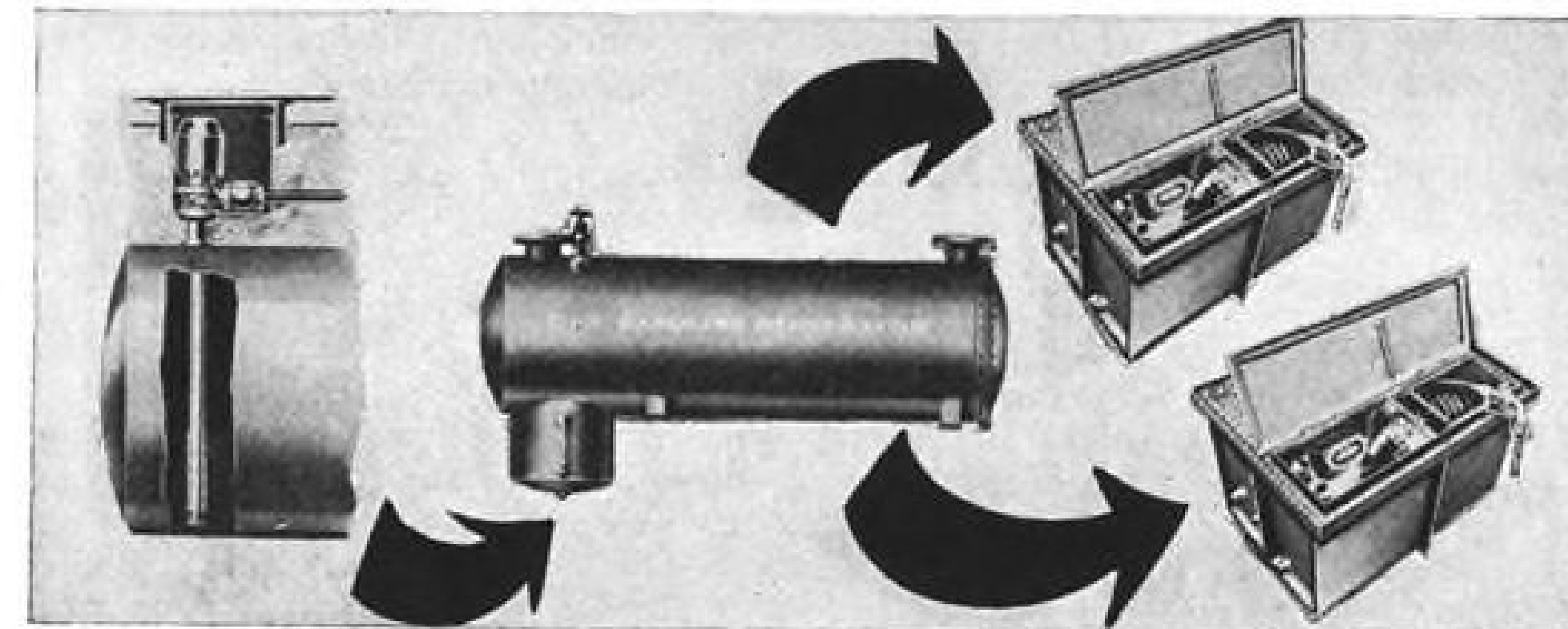
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# EDITORIAL

## New Opinions on a National Security Policy

The past week brought the following outstanding comments on the need for a national security policy, or changes in present methods of determining what is or is not censorable information. The press comments reproduced here, and on this page last week, were brought about by AVIATION WEEK's story Dec. 22 that the Bell XS-1 had flown faster than sound. The magazine's editors published the story, contending that the Air Force was preparing a public announcement.

### FROM THE PRESIDENT'S AIR POLICY COMMISSION REPORT —Extracts

We believe that our policies as to military secrecy in relation to our military establishment require overhauling. Details of our new air equipment and technical information as to our applied research and development which should be kept secret are often released to the press. This detailed information as to our airplanes and other air equipment is of no interest to the American public but it is of interest to nations competing with us in the current race for air power. On the other hand the people of the country are not kept fully informed of the dangers of the military situation they are facing and of the preparation they ought to make to defend themselves against these dangers. These facts are known by all foreign governments, but there is now no procedure in our government for systematically informing our people about them.

We recommend a reversal of both present policies. Less information should be given out as to the technical facts of our air establishment. More information should be given out as to the broad lines of the military situation which confronts the country and of the military establishment needed to handle this situation. The best way to give the people this information is to have these reviews of the state of our military establishment made public.—page 41.

Although we have difficulty in obtaining aeronautical information from other countries, they have almost complete access to our own data. We spread our latest advances in the aeronautical arts on the pages of our newspapers and magazines. The Air Force and the Navy appear to be competing publicly for recognition of their individual progress. When a new speed record is set, or a new model of advanced design is pushed out of the shop, its physical dimensions and its performance figures are quoted, and clear photographs showing the general configuration and the details of the new plane are broadcast. Admittedly, there are practical difficulties in keeping a B-36 or a B-47 hidden from public view. Also, it is argued, the taxpayer has a right to know what he is getting for his money. But, whatever the difficulties or objections, the commission believes that continuing and rigid enforcement of wartime security measures with regard to advanced aeronautical development is necessary now. For reasons outlined earlier in this report, it is desirable that our military readiness and our potential strength be known to the world. But we cannot now afford to show all the cards in our hand. The stakes are too high.—page 75.

### SUPERSONIC FLIGHT BRINGS ULTIMATE WEAPON NEAR

Gill Robb Wilson, N. Y. Herald Tribune (Jan. 9)

For several years the conquest of the sonic barrier by piloted aircraft was regarded as improbable within the near future. In fact, the project had been abandoned by several European nations which had turned to guided missiles as a field of greater possibility.

The Air Force accomplishment, if it could have been kept secret, would have been the equal of another atomic-bomb secret. Since it has not been kept, the least which can be done is to refrain from giving details.

We may contemplate, however, with common profit, that this conquest of the sonic barrier is as decisive a turning point in military history as was gunpowder, the submarine, the airplane or the atomic bomb.

Controlled supersonic flight means that man has come as near to the absolute weapon as possible, short of the addition of an atomic engine.

Of course, it should be pointed out that one highly experimental supersonic aircraft does not confer any measurable certainty of tactical progress. Even if the most optimistic viewpoint of the reported flight at Muroc Lake is assumed, it is still beyond doubt that many months of research and development lie ahead.

Too late for basic security, it is hoped that before further technical developments in supersonic flight are made a coordinated philosophy will be developed of what does, and what does not constitute national security.

The office of the Secretary of National Defense and the editors of press and radio should be able to work out a code satisfactory to both, but above all faithful to the security of the people. The writer previously has pointed out the necessity of such coordinated action. How much more security must be infringed before something is done?

### VOLUNTARY CENSORSHIP

Editorial, Washington Post (Jan. 7)

A good example of the inadequacy of the hodgepodge military security system under which the country is now operating was the story in Sunday's newspapers about the operation of the world's first low-pressure supersonic wind tunnel at the University of California. Funds for the development of this tunnel were provided by the Office of Naval Research. Yet the Secretary of Defense had no prior knowledge of the release. Whether the announcement in this case actually constituted a breach of security is not the question. The point is that there are some areas of research in which maintenance of secrecy is essential to national security. Top scientists associated with the government are genuinely concerned about the military implications of some of the technical information which already has found its way into print.

A reader has seen in our editorial of last Saturday, "Supersonic Security" [reprinted on this page last week], an implied plea for a return of voluntary censorship such as existed during the war under Byron Price. We intended no such formal connotation. What we suggested was the establishment of a single office or agency, respected by the press, with authority to coordinate and pass upon military information vital to the national security. Our suggestion was inspired by the present unintentional leakage of such information for want of a consistent security policy. It is obvious that from the security standpoint the government's left hand does not know what the right is doing.

Congress recognized the existence of an area in which secrecy is paramount in passing the Atomic Energy Act of 1946. Indeed, the Atomic Energy Commission already has instituted a reasonable procedure for the release of important information. The Espionage Act of 1917 also covers military secrets, although there is some difficulty of application in ordinary cases because of its concern with "intent." Within the framework of these laws there is always a certain amount of voluntary censorship by the press. The trouble is that in many instances the press is not competent to know what is and what is not information vital to security. We think there ought to be a clear definition of such information. The way to obtain the cooperation of the press in this cause is not by enacting additional legal penalties but by substituting for the present willy-nilly approach a unified security policy administered by the Department of National Defense.



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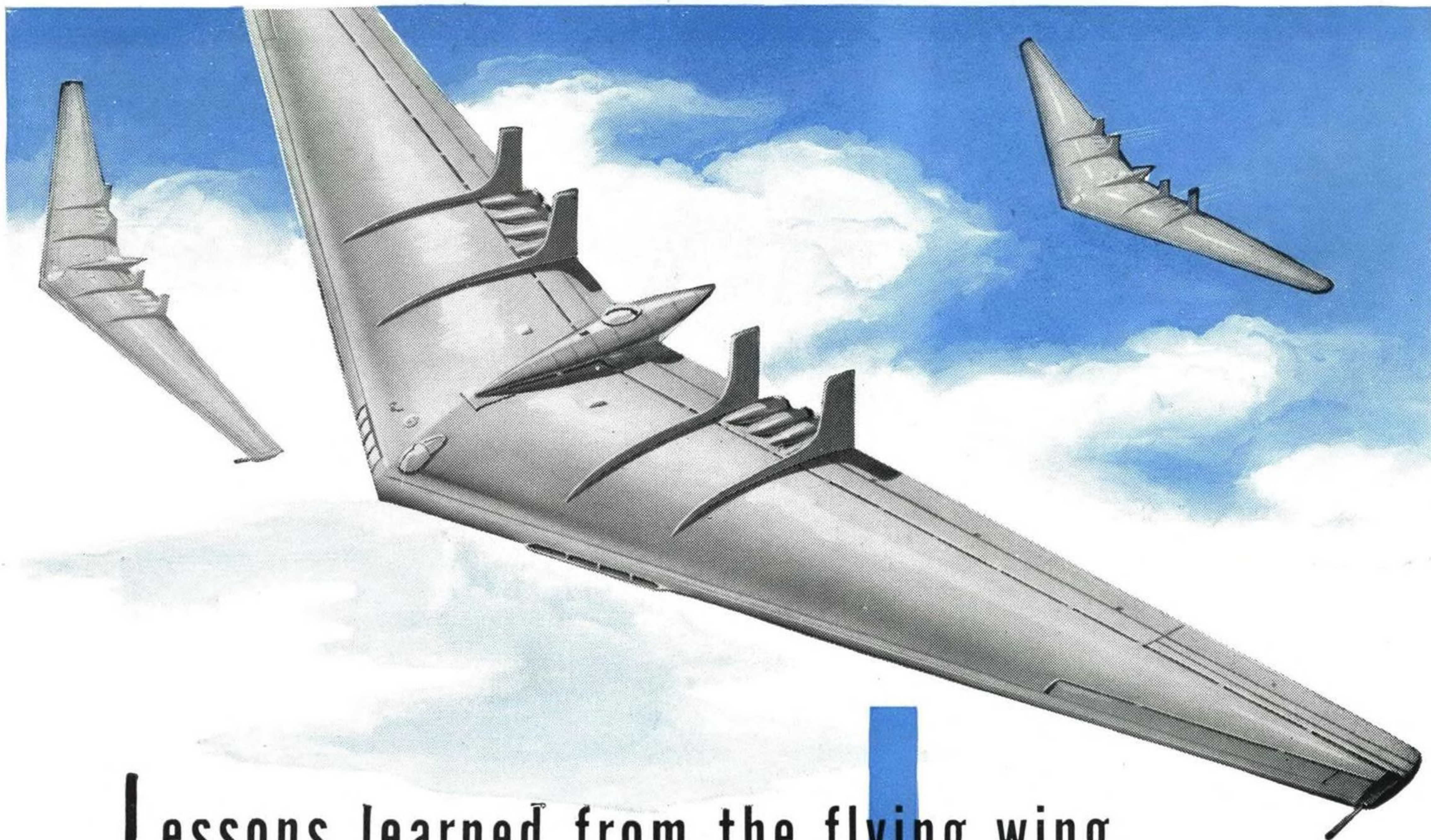
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