

## More Lessons From the Airlift—An Analysis

At latest reading the Berlin airlift had moved a total of 2,098,887 tons of supplies to the German capital. Of this total U. S. Air Force transports delivered 1,609,749 tons during 172,044 flights and 530,891 hours of flying time. Cost of the U. S. share of this enterprise now stands at 31 airmen dead; \$238,140,100; and 34 transports wrecked (25 Douglas C-54, 8 Douglas C-47 and one Fairchild C-82). During the early weeks of July USAF transports were delivering an average of 6500 tons per day to Berlin, an intensity of operations not far from the peaks attained while the blockade was tightest.

Although the Russian blockade of Berlin was officially lifted May 12, harassments of various sorts have kept surface traffic from the Allied Western Zone of Germany into the Russian Zone and Berlin far below their normal levels. It is quite evident that having lost the showdown on the complete blockade of Berlin by virtue of the Allied airlift, the Russians now plan a guerrilla action to snipe at the inter-zone communications.

Allied plans on the future of the airlift indicate that it will be reduced in scope (some sources say by two-thirds) to effect some economy in operations. However it seems likely that the basic organization for at least the U. S. portion of the airlift and most of its personnel and planes will continue on duty as insurance against a shift in the Russian wind.

Many lessons have been drawn from the 13-month experience of the airlift. For example it should be obvious by now that any successful air transport operation must be based on a solid, efficient foundation of surface transportation. The role of the Navy in shipping aviation gas to Germany, and the Army in supplying rail and truck transport to the airheads, has been vastly under-emphasized in viewing the more spectacular drama of the 350-mile air haul.

Also important have been the giant strides of the airlift's trans-Atlantic air support operations that made it possible for engines worn out over Germany to be overhauled in San Antonio; transports battered on the Frankfurt-Berlin haul to be reconditioned in Dallas, Burbank and Oakland; and crews to be trained for Operation Vittles in Great Falls, Mont. The large, long-range strategic transports (Douglas C-74, Boeing C-97 and the Lockheed C-121A) have proved out in the air support operations for vittles.

Perhaps of even more importance has been the clear-cut lesson of how a great air effort aimed at implementing national policy has its roots deep in the civil aviation of a country. The relation of a country's air potential to its civil aviation resources has often been discussed but never so clearly demonstrated as in the Berlin airlift.

For early air support operations the Military Air Transport Service had to rely heavily on both scheduled and nonscheduled international carriers such as Seaboard & Western, Transocean, American Overseas, Alaska Airlines and Pan American. When the Air Materiel Command maintenance depots proved inadequate to handle the swift and efficient reconditioning of airlift transports it was the civilian maintenance contractors such as TEMCO, Lockheed Air Service and Transocean that again shored up the sagging structure of the airlift.

The record of the civilian maintenance contractors compared with the cumbersome AMC depots raises the question of how much more of this type work should be used to build up adequate civil reserves for emergency use rather than maintaining an expensive and not too efficient military depot system. The military certainly need some sort of maintenance organization under their own wing. But, as was suggested to the President's Air Policy Commission, squeezing the water out of the military maintenance system and insuring an adequate reserve of civil maintenance facilities available for military use may be a cheaper, more efficient and sounder approach to the problem.

When the need for transport pilots and crews became acute the crisis was met by civil airlines pilots furloughed by the airlines and reservists returning to active duty from civil life. Fortunately the war-filled reservoir of trained aviation personnel both for flight and ground duties is still large, but with each passing year its level decreases. There has been no sign of any development of a national policy aimed at eventual replenishment of this reservoir when it runs dangerously low.

There has been considerable talk about the value of civil aviation to the total airpower of a country. Everybody coming to Washington seeking a subsidy for his particular enterprise tries to hang the "national defense" tag on his effort. However there seems to be a very urgent need for formulation of a national air policy that will

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Much of the content of "The Lesson of the Airlift," appearing on this page Aug. 30, 1948, originated from manuscripts by Lieut. Col. Edwin F. Black, of the U. S. Army, and Langdon P. Marvin, Jr. At that time it was the intention of AVIATION WEEK to publish more complete articles by both of these authorities, based on the manuscripts. Circumstances have prevented such publication, however, and AVIATION WEEK wishes to give proper credit to Lieut. Col. Black and Mr. Marvin at this time.

Lieut. Col. Black, who had titled his manuscript, "A Comparison of Air and Sea Transportation," is currently on duty with the Office of the Secretary of Defense. Mr. Marvin in recent months has been writing a book on international air cargo, tentatively titled, "The New Sea." More recently, he has assisted the Senate Interstate and Foreign Commerce Committee in preliminary studies looking toward legislation authorizing a federal program to build up a fleet of cargo aircraft. During the war he was chairman of the Interdepartmental Air Cargo Priorities Committee.

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evaluate the real elements of this country's airpower and fit them into their proper place. Neither the President's Air Policy Commission nor the Congressional Air Policy Board went much beyond the strictly military phases of U. S. air policy. It is obvious that this country cannot maintain during peacetime a standing Air Force and Naval Aviation large enough to deal with any wartime emergency.

Perhaps if there were more effort devoted to building up the broad foundations of airpower that could pay their way at least partially through commercial operations it would be easier to sell both the country and the Congress on paying the remaining bill for military aviation.



## DOMESTIC

Fairchild Engine & Airplane Corp. board of directors elected James A. Allis chairman. Other officers, in addition to Richard S. Boutelle, president (AVIATION WEEK, July 18), include: Arthur F. Flood, vice president, comptroller and treasurer; George F. Chapline, Ranger division vice president; Myron B. Gordon, vice president; Turner A. Sims, NEPA division vice president; and Paul S. Cleaveland, secretary. Plan to reduce drastically the number of New York personnel, and move the remainder to Hagerstown early in September.

American Overseas Airlines has its Stratocruiser on an eight-day "shake-down" flight, with stops planned at Gander, Shannon, London, Zurich and Frankfurt.

Nonsked C-46 of Air Transport Associates, carrying 32, crashed into an apartment house just after takeoff from Boeing Field, Seattle. Early reports said that of six fatalities, three were aboard plane, the others apartment residents. Thirty-three were reported injured.

Twenty-three day strike of truck drivers for Willis-Rose Corp. at Idlewild Airport ended last week. Teamsters Union agreed to accept a \$1.50 an hour flat rate wage. Previous rates ranged from \$1.10 to \$1.35.

Manufacturing backlog as of March 31, 1949, totaled \$2,991 million, Census Bureau reports. Orders for complete aircraft and parts comprised 67 percent. Backlog on Dec. 31, 1948, was \$3,106 million which in turn was a drop from the \$3,236 million on Sept. 30, 1948.

## FINANCIAL

Beech Aircraft Corp. board of directors voted a quarterly dividend of 25 cents per share, payable Aug. 5 to stockholders of record July 25. Beech backlog is about \$10 million. Sales for nine-month period ended June 30 totaled \$15,845,938, including non-aviation commodities.

G. M. Giannini & Co., Inc., reported total sales of \$1,072,164 for 1948, a gain of \$199,246 over 1947. Manufactured products accounted for 70 percent of total sales.

## INTERNATIONAL

KLM will discontinue its alternate route from Amsterdam to Batavia via Cairo, Aden and Mauritius. Thrice-weekly service to Indonesia will be flown via Cairo, Karachi and Bangkok since Pakistan government lifted the ban imposed six months ago on all Dutch air transport services following Netherlands action in Indonesia.

# INDUSTRY OBSERVER

►Convair B-36D prototype successfully completed its first test flight using the General Electric J-47 turbojet engines in the two outboard wing pod nacelles. The J-47 engines replaced the four Allison J-35-19 turbojets originally used on the B-36D. Total take-off thrust from the four turbojet engines was raised from 19,600 lb. to 20,800 lb. by the switch. Production model B-36Ds will be equipped with the J-47 series.

►Douglas Aircraft Corp. has completed mating of the wing and fuselage of its prototype C-124A transport. The completed transport is scheduled to fly in November with production on the initial USAF order of 28 beginning before the year's end.

►Cornell Aeronautical Laboratory has developed fiberglass helicopter blades that have shown indications of aerodynamic and structural superiority over some conventional type blades. The fiberglass blades were recently test flown successfully at Wright-Patterson AFB. The blades are 22 ft. long with an average width of 20 in. The blades are moulded in a single operation and utilize a "sandwich" type construction with a balsa wood core.

►American observers will be watching with interest the British closed-course jet race scheduled for Aug. 1 over a quadrangular 20-mile course. Entries include a de Havilland Vampire, Gloster Meteor, Hawker P-1040, de Havilland 108, and the Vickers-Armstrong Swift. There has been no closed-course jet racing in the United States since the hair-raising jet Thompson Trophy scramble at the 1947 air races at Cleveland when USAF pilots competed in Lockheed F-80s.

►Pratt & Whitney JT-6B Turbo-Wasp has been certificated for civil use by the Civil Aeronautics Administration. The 5000-lb. thrust engine is the P&W version of the British Rolls-Royce Nene. British Nene is now installed experimentally in several British commercial transports. Only other U.S.-manufactured jet available for civil use is the Allison J-33-A21 rated at 4000 lb. thrust. The P&W version of the Nene (J-42) will be superseded for U. S. Air Force and Navy use by the Tay (J-48), a more powerful centrifugal flow turbojet.

►McDonnell Aircraft Corp. engineers are readying two midget racers for the 1949 Goodyear trophy race at Cleveland in September. A shoulder wing pusher is under construction by a group headed by missile engineers George Owl and Bob Short, and Errol Painter, a Banshee (F2H) designer. Second entry will be a mid-wing monoplane built by Larry Reithmaier of MAC's power plant division.

►Pratt & Whitney's new R-2180 Twin Wasp engine rated at 1650 hp. is getting its initial flight tests on a Northrop F-61 at East Hartford, Conn. The R-2180 has been ordered by USAF for use in a new Piasecki helicopter, by SAAB for use in the Swedish Scandia transport, and may figure in a DC-4 and C-54 power conversion program proposed by Douglas Aircraft Corp.

►Production version of the Northrop XF-89 twin-jet night fighter will be powered by two General Electric J-47 5200 lb. turbojets instead of the Allison J-35 engines used in the experimental models. USAF contract for initial production of 48 F-89As was negotiated at a price of about \$800,000 apiece including government-furnished equipment. Northrop was originally scheduled to get an additional order for 143 F-89As out of fiscal 1950 procurement funds. Latest revision of USAF 1950 procurement schedule has reduced the F-89A quota considerably as the USAF trend to smaller and lighter night fighters becomes more pronounced.



2-O-2 transports. Martin has by no means given up on domestic airlines that have not yet purchased twin engine replacements for their DC-3 equipment.

- **Special Weapons.** Martin has one of the largest guided missile engineering and production staffs in the industry. It has production contracts on two missiles—one a Navy target device and the other an Air Force tactical missile. It is building a series of high altitude research rockets for the Navy and expects to figure prominently in the rapidly developing missile field.

- **Electronics.** Martin has specialized in design of electronic fire control systems and production of power-driven aircraft gun turrets. Current turret production involves equipment for the Mercator and the Lockheed Neptune (P2V) patrol bomber. Engineering work is progressing on several new fire control systems for high speed aircraft.

Stratovision, an airborne television relay station was developed for both military and commercial use.

- **Chemical Division.** Plant at Painesville, Ohio, is producing Marvinol, a vinyl resin powder widely used in the manufacture of plastic products.

- **Rotawings Division.** Originally planned as Martin's helicopter division, Rotawings has been absorbed back into the main Martin engineering department and is relatively inactive at the present time.

## Report on December Nonsked Plane Loss

Official investigation into the disappearance of a nonscheduled DC-3 while on a flight from San Juan, Puerto Rico, to Miami last Dec. 28 has failed to shed much light on the mystery.

The plane, owned by Karl Knight, Miami, and leased to Airborne Transport, Inc., New York, was carrying 29 passengers and a crew of three when it was lost on the over-water hop.

Civil Aeronautics Board said it lacked sufficient information to determine the probable cause of the accident. But it noted that the plane did not meet the requirements of its operating certificate when it took off from Puerto Rico.

- **Batteries Low**—When examined at San Juan, the DC-3's batteries were found in a discharged condition. Advised that it would take several hours to recharge the batteries to proper operating capacity, the pilot asked a mechanic to add water and return them to the aircraft without recharging.

With the batteries run down, the plane's electrical system including the transmitter, was malfunctioning at the time of departure from San Juan for Miami. Contradictory weight and balance and passenger manifests indicated the DC-3 was 118 lb. overloaded. The company's maintenance records were incomplete.

- **Flight Cleared**—The flight was cleared VFR orally with the understanding that it remain in the vicinity of San Juan until able to contact the tower, at which time an IFR flight plan to Miami would be approved when filed. Basis of this agreement was the belief that the aircraft's generators would shortly produce sufficient current capacity to allow transmission.

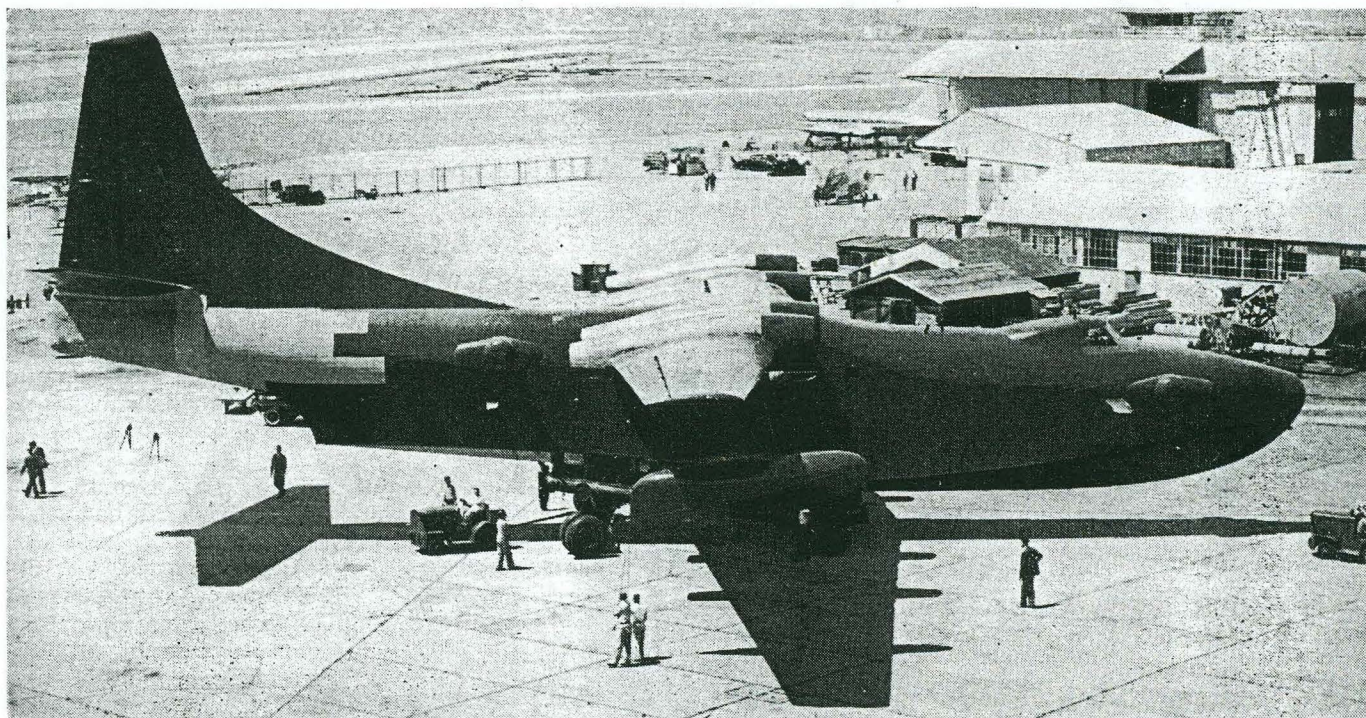
But the plane took off and without further contact with the tower continued on course. The pilot advised CAA communications at San Juan he was unable to contact the tower and was proceeding IFR to Miami.

Last reported position of the plane was 50 miles south of Miami.

## Air Safety Board

Legislation setting up a five-member independent air safety board to take over the safety activities of the Civil Aeronautics Board and the Civil Aeronautics Administration was introduced last week by Chairman Robert Crosser (D., Ohio) of the House Interstate and Foreign Commerce Committee.

The measure has a fair chance for enactment at this session. Chairman Ed Johnson (D., Colo.) of the Senate Interstate and Foreign Commerce Committee favors an independent board. However, there is sentiment in Congress against making organizational changes not in line with the recommendations of the Hoover Commission.



### CONVAIR'S GIANT FLYING BOAT

New view of the giant Convair flying boat XP5Y-1 on the ramp at San Diego awaiting the four Allison T-40 turboprops with which it will be powered. The 5500 hp.

T-40 is currently undergoing testing by Allison at Indianapolis and is expected to be delivered to Convair late in the summer. Blisters bulging just below the cockpit and

at the base of the dorsal fin are remotely controlled gun turrets. The 138,000-lb. flying boat is expected to have a top speed of close to 400 mph.



# LETTERS

## Used in War College

Your magazine is being used as a guide in current air power thought more each week. Particularly, your issue of May 16. That copy left my hands about one hour after I received it and it was three days before I received it back. It has been through at least 11 interested War College students. . . .

A USAF BASE COMMANDING OFFICER

## Skimming the Cream?

As a reader suffering from myopic astigmatism, I rebelled a bit at the fine-print of your June 27 editorial, "Air Transport Should Grow Up."

But as one who cherishes continued betterment of the aeronautical breed, I can only shout "bravo" over what you had to say.

So this letter is by way of being a postscript to your own reply to handsome Bob Six and hearty Jerry Land.

In the first instance, let me put Bob Six straight on the "cheap labor" employed by Aircoach operators. Air America pays its DC-4 captains a straight \$12 per hour—an amount appreciably higher than the going rate on Continental and more than Jerry Land would suggest to his Air Transport Association membership.

Moreover, Air America captains need not mark time in deference to over-loaded seniority lists. They average better than 65 hours of flying every month—even though Air America operates a maximum of 12 trips per month under provisions of its irregular exemption. In addition, Air America captains draw \$7.20 in tax-free per diem for expenses away from domicile to give them an average of approximately \$10,000 yearly.

Air America copilots are paid a straight monthly salary of \$300 during their first six months with the company; \$350 for their second six months. After a year, they are expected to qualify as captains—and usually do. They also draw \$7.20 daily for expenses.

Cabin attendants, too, are paid no less than their colleagues on the scheduled airlines. They start at \$200, usually rise to \$225 within three months. With \$7.20 in per diem added on to these wages, most Air America stewardesses gross \$65 a week—regularly.

On the ground, pay scales are equally conducive to low turnover in personnel. Station agents, dispatchers, load control clerks, and senior clerical workers earn \$250 monthly. Ticket agents are paid from \$200 to \$300 monthly depending upon living costs in their base cities. Ticket office managers are paid 20 percent more.

There is one point of truth in Bob Six's reference to lower payroll costs. Air America has fewer—and less expensive—executives than any comparable air operation in the United States. It is this general economy on indirect or non-flying functions that permits Air America to pay more than the reg-

ular airline rate for pilots, gas, oil, insurance, maintenance, ground service, and general safety while operating profitably on 4 cents per mile fares.

In conclusion, let me take one more poke at the "cream of the market" fallacy that insists the non-skeds would lose their shirts on anything but New York-Los Angeles passengers.

During the month of May, 40 percent of Air America's net profit came from the short-haul Los Angeles-San Francisco and Chicago-New York passengers. An additional 20 percent of the net came from Chicago-Los Angeles business. The remaining 40 percent of net was traceable to New York-California traffic, excess baggage revenues, charter and group movements, and miscellaneous income from equipment leases, earned discounts, etc.

Meanwhile, two other non-members of the Air Transport Assn. were carrying 14,000 passengers on the Los Angeles-San Francisco shuttle—according to the in-and-out records at Lockheed Air Terminal.

If the non-skeds are skimming any cream, that cream represents a large segment of the population that had gone sour on air travel because they could not afford 6 cent fares and the luxury of flying in half-empty airplanes.

To explain the profit of Air America, I would suggest that Admiral Land study our manifests rather than our cost sheets. Simple arithmetic suggests that 67 seats occupied at \$100 apiece will deliver a greater profit than 20 or 25 seats occupied at \$157. Or—if we consider a short-haul operation—72 seats occupied at \$10 on the San Francisco-Los Angeles route will pay a greater return than 20 seats occupied at \$21.

But, perhaps ATA members who prefer the paternalism of Uncle Sam to the patronage of Uncle Sam's nephews don't want this yardstick? We at Air America believe that commercial aviation, now celebrating its thirtieth birthday, is old enough to lay aside the swaddling cloth of subsidy and earn its own living.

PAUL ANDREWS, PRESIDENT  
Wilson-Andrews Adv. Corp.  
407 Commercial Center St.  
Beverly Hills, Calif.

## Pre-Stall Warnings

Mr. Chapman's recent letter to you (AVIATION WEEK June 20) requested evidence as to the ability of stall warning indicators to prevent stall accidents.

He is evidently under the misunderstanding that when the stall alarm sounds it is too late to do anything about it. The Safe Flight pre-stall warning indicator signals the approach of an impending stall in ample time to take normal preventive action. In fact, the pre-stall margin is adjustable and may be made as far in advance of the stall as is necessary.

The Safe Flight pre-stall indicator has set a perfect record in eliminating fatal stall

accidents from more than 5000 airplanes over a period of 2 years. Since there are normally an average of 37 fatal stall accidents from this number of airplanes each year, there are many people who owe their lives to not being as skeptical as Mr. Chapman regarding the value of stall instrumentation.

We recently made a survey of 500 owners of SFI-equipped airplanes. The results of this survey were submitted by the Aircraft Owners and Pilots Assn. to the members of the Congressional Committee on Air Safety. A tabulation of the results are as follows:

- 96 percent stated that the SFI added to confidence and flying pleasure.
- 78 percent stated that it had improved the pilot's stall perception.
- 60 percent stated that it had warned against an inadvertent stall.

To obtain more information concerning the latter group, those who stated that an inadvertent stall accident had been prevented, we sent a full page questionnaire form to cover the complete details. These returned questionnaires gave detailed descriptions of incidents where the instrument warned of an inadvertent stall which, in the opinion of the pilot, might have resulted in an accident.

In testimony of the Safe Flight Indicator's record, five aviation insurance underwriters now grant a specific reduction in crash insurance rates when an aircraft is equipped with an SFI.

LEONARD M. GREENE, PRESIDENT  
Safe Flight Instrument Corp.  
21 Russell Street  
White Plains, N. Y.

## Practical Roadable

I thought you might be interested in a stunt which involved my roadable Ercoupe. Mrs. Gladys Pennington and Ellen Gilmour of Miami entered the All Women Race June 1 from Montreal, Canada, to Miami, and after flying to Jacksonville, Fla., folded the wings and drove down the highway to Daytona a little more than 100 miles and flew on to Miami the next morning.

They had to discontinue driving a little past midnight because the headlights exhausted the battery (which is not charged while driving because the engine turns too slow).

This was purely a publicity stunt, but it did prove that roadable airplanes can be practical and take their wings with them on the highway (it was windy and raining, also) and it must be remembered that this was a standard 1946 Ercoupe with no alterations, but equipped with the Holland folding wing device. Think how practical an airplane can be, if designed for roadability—no more weather problems and no more hangar problems. Incidentally, I keep this plane at home in a garage.

WISMER HOLLAND  
Municipal Airport  
Valdosta, Georgia