U.S. NEEDS PROTOTYPE TRANSPORT PLANES

The aircraft industry of the United States is actively engaged with the U.S. Air Force in an organized and closely integrated program for improving production methods and fabricating techniques to bring about substantial cost reductions. Almost 200 separate projects have been proposed by the industry for joint industry-Air Force consideration.

The principal goals are:

1. To substantially reduce the time and cost of manufacturing aircraft and components.
2. To provide effective industrial preparation — should any future emergency require quick mobilization for large-scale airplane or missile output.

Practical Studies

To achieve these objectives, a Production Methods Committee of the Aircraft Industries Association was established to work with the Manufacturing Branch of the Air Force's Air Material Command. Through a carefully coordinated program, original designs are subjected to the guidance of Lt. Gen. K. B. Wolfe, now Deputy Chief of Staff for Materiel, USAF, these agencies analyze and investigate problems and difficulties encountered in current production. Wherever practical, action is then taken to develop new machining operations, materials forming, assembly techniques, joining methods or procedures which will provide an efficient and economical solution to those problems.

Industrial Ability

Where the developments involved are too large for any one company to undertake, the Air Force has agreed to consider sponsoring contracts from available AF funds.

Industrial capability, they agreed, is largely controlled by the "five M's": men hours, material, machine tools, management and money. Working in close coordination, the aircraft industry and the AMC are developing methods, processes, new tools, and manufacturing redesign to achieve maximum utilization of these five factors.

The projects are highly technical in character, in the sense that improved methods and procedures would only be marginally effective unless they are incorporated into the machine tools used in the manufacturing process. For this reason, the joint industrial-Air Force program has been worked out in detail so that both the Air Force and the aircraft industry are assured of its success.

Government Finds 1,119 Airplanes Necessary in Day by Day Activities

Eleven departments of the Federal government, by the end of the coming fiscal year, will have acquired and put into use for a wide variety of purposes a total of 1,119 airplanes, exclusive of those used for military purposes.

In most cases, the work done by these government-owned aircraft could not be accomplished in no other way, and the steady expansion of the government’s day-by-day uses of planes is indicative of the growing role aviation is playing in many types of business, commerce, travel, research and the building up of the country.

Purchase of 90 new aircraft in "civil" categories is planned under the fiscal 1951 budget and over ten thousand used in previous years will be continued in service.

The story of the government’s increasing reliance upon the use of planes probably is told best by a brief outline of the number of planes operated by each department and their principal uses:

- Atomic Energy Commission (5) — Operates a fleet of five planes for transportation, air patrol of prohibited areas, and public-health mosquito control.
- See GOVT. PLANES page 3-


By Hon. Harry R. Sheppard

Democrat, Calif., Ranking Majority Member, House Sub-Committee on Military Appropriations

Both because of military considerations and to insure our continued leadership in air transportation, our military establishment should be encouraged to embark upon a program of developing advanced cargo and turbine-powered transports without delay. The vital role of air transport in our defense was first dramatically illustrated in the last war when our industry produced more than 24,289 transports including 1,560 four-engine types, for the Air Force, the Navy, and our allies. Last year the Berlin Airlift taught us again that adequate air transport can effectively prevent isolation and blockade.

The aerial transport arm of a nation that desires to survive must be equipped at all times with the latest and most advanced equipment. Those concerned with aerial logistics must constantly seek to safeguard their transports from interception and to increase their ability to deliver supplies and personnel quickly and economically. For these reasons there is no doubt but that high-speed, turbine-powered transports will be essential to the military transport services of the future.

Turbo Power Essential

In addition, there are many specialized uses for high speed transports that clearly call for prompt action by our military establishment to develop specialized designs for such missions. General Devers, commander of the Army Field Forces until a few months ago, has several times declared that turbine-powered airplanes will be required for the effective conduct of operations of the ground forces. This nation must produce and test such high-speed transports to develop their full potentialities in future military operations.
The 70-Group Program, The Industry and the Public
By DeWitt C. Ramsey (Admiral, U.S.N., Ret.), President, Aircraft Industries Association

Throughout the debates in Congress over the 70-group program during the past two years, the aircraft industry has at all times avoided taking any public position on this issue. Any other course would be inappropriate because only the Congress, the Defense Establishment and official agencies constitute the proper authority to study this problem possess the information controlling an intelligent decision upon military requirements in this field of the national defense effort.

The industry disseminated information about defense requirements that in its judgment was authoritative. It was based upon the best official information available. Thus, the findings of the President's Air Policy Committee, the Congressional Aviation Policy Board, the Air Coordinating Committee and those of the responsible committees of the Congress dealing with this subject have been distributed widely.

Virtually all of these findings and reports clearly support the need for the 70-group program of the United States Air Force and for a strong aerial arm of the Navy. It is difficult to imagine that anything else should be the case since air power is universally recognized as our first line of defense or since, as Winston Churchill put it, "For good or ill, air mastery is today the supreme expression of military power, and fleets and armies, however necessary, must accept a subordinate rank."

President Truman and the Defense Establishment have decided that the country cannot afford the 70-group Air Force and that the strength of the Naval air arm must be further reduced. In effect, their decision is that the country must take the calculated risk of an inadequate defense to the degree of maintaining only a 48-group Air Force instead of a 70-group because of the cost involved. The aircraft industry, aware of tax hardships and of the importance of maintaining a healthy national economy, just as is any other group of citizens, cannot oppose this decision. The industry can and will, however, continue to point out what the distinguished and impartial survey groups have found to be the minimum aviation requirements for our defense. We thus will remind the public of the calculated risks we as a nation are taking.

This course seems essential because of the industry's own important responsibilities as a key unit of the national defense team. The industry must maintain a large and a balanced organization of scientists and engineers who must cope continuously with the problems attending technical and revolutionary developments. Such an organization is essential if our air forces are to be kept abreast of the rapid advances in aeronautical science.

In addition, the industry must remain a healthy production nucleus which in an emergency can be rapidly expanded to produce the enormous volume of aerial equipment necessary in war.

Our national war plans are obviously based on the industrial potential of the nation rather than maintaining adequate forces in being. Equally obvious is the fact that we will never again be allowed much time to mobilize that potential and must therefore maintain an adequate base for rapid expansion.

Should this nation fall behind in the aeronautical race or maintain so small a nucleus that the large production required in an emergency would not be ready when needed, the industry, for reasons beyond its control, would have failed to carry out its assigned mission. Therefore, it is in the national interest that we continue to disseminate information about the requirements for our national defense and the obstacles to the fulfillment of those requirements.
Air Quotes

"After the go-ahead is given, it requires at least a year to start turning out pilots; two years before we get them in quantity.

"It requires a year to start the wheels of industry moving for the production of a new plane, and another year before we have hit real quantity production if we start with an approved, well-tested design."

—The Late Gen. H. H. Arnold
General of the Air Force
(Courtesy of McNaught Syndicate)

Facts and Figures

During fiscal 1951 the U.S. Air Force will complete the equipping of three of the four heavy bombardment wings with B-36 aircraft. The fourth heavy bombardment wing will be in the process of conversion by the end of the year. These are all the result of prior years' appropriations.

U.S. airlines operating internationally, air-transporting passengers, carried an average of 219,000,000 passengers during 1950. The average loading percentage was 84.5%, up from 81.4% the previous year. Since 1942 the average has remained above 80%.

U.S. air force has 805 planes in service, all of which are equipped as trainers. These planes are used for training pilots, navigators, and other personnel in connection with flight operations.

Airplane for Atomic Energy Commission

The Atomic Energy Commission is one of 11 government departments using a total of 1,119 airplanes in their day-by-day activities. A surprise tactic by Hanford, Wash. employees is to swoop low over an unidentified automobile inside the Hanford perimeter and land in the road directly ahead," said the AEC in releasing the above picture. "The pilot then waits for the autoist to drive up and questions him as to identity, purpose in being there." AEC planes are used for paroling, transporting employees, for mapping and for mosquito control.

GOVT. PLANES

(Continued from page one)

Tennessee Valley Authority (10)—Will buy two more planes for a total of ten, used principally for transporting TVA employees on official business. One plane is mainly for photography, mapping and reconnaissance. One helicopter will be used for power line inspection and one helicopter and four planes will be used by technicians and engineers in malaria control, larvicidal and insecticide applications, survey of construction and malaria control projects in remote areas.

Federal Security Agency (4)—Its Public Health Service uses four planes for technical and epidemic control activities, including air dispersal of insecticides and larvicides.

Department of Agriculture (52)—The Bureau of Entomology and Plant Quarantine will acquire five more aircraft for a total of 22 used in the application of insecticides to crops and forests, both in its long range program and to suppress emergency and incipient outbreaks of insects.

More for Forest Service

The Forest Service will buy three more aircraft for a total fleet of 18 used for transportation of men and supplies, including "smoke jumpers," to inaccessible areas, for reconnaissance of large fires, and for aerial service in remote areas and after lightning storms. Forest Service also will buy four other aircraft, increasing its total to 22, to be used in the fleet used for control of destructive insects attacking forest areas.

Department of Commerce (109)—The Civil Aeronautics Administration will add 600 airplanes and helicopters to its personnel in making investigations and inspections, conducting engineering tests, and checking and maintaining facilities. Five other airplanes are used specifically by technical personnel in connection with flight test operations. The Civil Aeronautics Board has one plane used by Air Force personnel, four for an aircraft which now has four, will buy five new planes to be used largely by division engineers for inspection work.

Department of the Interior (56)—The U.S. Botanical Gardens has one plane, will acquire two more, to be used for line location, survey, research, and for fire patrol planes for Washington and vicinity. The Geological Survey has one plane for geophysical exploration.

Fish and Wildlife Service will add 10 new planes to its fleet of 30. They are used by agents for enforcing fish and game laws, for predatory animal control, by aquatic biologists for fishery research and surveys, for waterfowl surveys and for game management.

The Alaska Railroad has one plane, currently on loan to Fish and Wildlife at Juneau.

Department of Justice (8)—The Immigration and Naturalization Service will double its fleet of four planes this year. They are used by border patrol pilots and inspectors, for persons on the border line of illegal entry, for pursuit of illegal aliens: pursuit of suspected violators, and transportation of persons to points of arrest.

Department of State (2)—Two aircraft are maintained for use by the diplomatic and consular representatives of the United States overseas.

600 Aerial Ambulances Now in Use in the U.S.

There are now at least 600 air-planes equipped as aerial ambulances in active operation in the United States. They are stationed at strategic points throughout the country, according to a special survey made by the Civil Aeronautics Administration.

CAA will have ready for distribution about March 1 a complete listing of these hospital planes. Data will include such pertinent information as their size, speed, facilities carried — such as oxygen for patients—and the number of attendants who can be carried.

Distribution of the ambulance plane fleet will be made to hospitals, medical associations, and other potential users. Ambulance planes are being used more and more in both emergency and routine cases, the survey shows.

4-Passenger Planes Popular

Four-passenger personal planes are becoming more and more popular—nearly 16,000 of them having been sold during the past three and one-half years. During the first seven months of 1949 sales of four-place aircraft accounted for 68.5% of the total number of light airplanes sold, as compared to only 8% in 1946. The Personal Aircraft Council of the Aircraft Industries Association reports.
**Air Power Budget Lacks Provisions For Obsolescence**

The national budget for the fiscal year 1951 provides for the procurement of 1,383 new planes for the Air Force and 769 new planes for the Navy, to support an Air Force operating 8,800 airplanes and a Naval air arm operating inventory of 5,000 planes. This budget would support a 48-group Air Force compared to the 769 new planes recommended as the minimum necessary for national defense by automatic impartial surveyors such as the President’s Air Policy Commission and the Congressional Aviation Policy Board.

Measured in terms of airframe pounds, the proposed procurement will be 21,300,000 pounds for the Air Force and 8,100,000 for the Naval air arm, a total of 29,400,000 airframe pounds. This compares with the minimum procurement levels of 63,000,000 pounds for both services recommended by the Congressional Aviation Policy Board.

A survey by the Labor Department’s Bureau of Employment Security, based on 83% of the industry’s work forces, discloses that employment in the aircraft industry is expected to decline almost 8% by March of 1950, reflecting a reduction in military production under the 1950 and 1951 budgets. Because of both obsolescence and attrition, an air force today, as modern must replace its equipment every five years. To keep the 9,000-plane-force of the USAF modern would thus require purchase of 1,500 planes a year, compared to the 1,353 scheduled to be bought during fiscal 1951, and to keep the 5,000-plane Naval air arm up to date would require purchase of 1,100 planes compared to the procurement schedule of 769.

The obvious inference is that the equipment for our Air Forces will become increasingly obsolete and else another curtailment in those forces will be required.

---

**Aircraft Electrical Manual Is Published**

A new manual designed to provide an up-to-the-minute design guide on electrical system installations for transport aircraft has been prepared by the Aircraft Industries Association, the second in a series of AIA technical publications.

This "Design Manual on Electrical Installations" is available at the Aircraft Industries Association, 610 Shoreham Building, Washington 5, D. C., at a unit cost of $1.75.

Based on the practical experience and design knowledge of leading industrial engineers, the manual contains comprehensive data not available from any other source. Also, the manual is presented in a practical and usable form for the every-day operations of design engineers, maintenance engineers, electrical equipment manufacturers, and students.

The State of Iowa has more registered pilots between the ages of 55 and 69 than between the ages of 15 and 20 years.

---

**Air Transport vs. Rail**

1949 COMPARED TO 1948

<table>
<thead>
<tr>
<th>Air Transport</th>
<th>Rail Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re. Pass. Miles</td>
<td>Freight Ton Miles</td>
</tr>
<tr>
<td>Up</td>
<td>13.9%</td>
</tr>
</tbody>
</table>

- Domestic trunk lines only. Air figures estimated for last two months of year, rail figures for last two weeks.

**Answers to Planes Quiz**

1. True. With one 28-cylinder engine maximum take-off power is rated at 3,500 h.p., at 7,200 revolutions per minute and 750 feet with water injection; it is 3,250 h.p. at 2,700 r.p.m., and 1,500 feet without water.
2. (c) 21,220 feet is the world’s altitude record, held by an American helicopter.
3. (c) The world lightplane altitude record of 26,400 feet is held by a woman, Mildred Zimmerman of Reading, Pa.
4. (b) One-fourth.
5. (d) A British jet fighter stayed aloft 12 hours and three minutes and covered 3,000 miles, being refueled in the air 11 times.
6. (a) 510,000.
7. (a) Approximately 33 per cent.
8. (c) Trans-Atlantic flighters, about 11,000 scheduled flights across the North Atlantic, or an average of 30 per day, during 1949.
9. (c) 6,484 airports.
10. (c) A leading aircraft builder says: "On an average jet fighter, the in-plant process requires about six months from the time the raw material is issued from the warehouse until the part goes out the factory and is on a finished airplane."
11. (c) One big builder of jet fighters uses on an average one inspector for each 10 direct workers.