

# PLANES

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MAY BE  
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NO. 3

## Building of U.S. Air Arm is Long-Range Job

Written especially for PLANES

By Representative Charles R. Clason (R. Mass.)  
Chairman, Subcommittee on Air Materiel  
Committee on Armed Services

The long term program for rebuilding of American air power initiated by the 80th Congress is one of the most decisive steps ever taken to strengthen national security. Public support for the orderly development and completion of that program must be retained throughout the years ahead if our air power is to remain modern and effective. The appropriations voted this year are only a start, and not a substitute, for a consistent long-term air power program.



The 80th Congress has been "air minded." It has enacted laws which have established the Air Force as one of the three great military services.

Rep. C. R. Clason It has appropriated \$822,000,000 more money than President Truman requested in order that the aims of the military air chiefs might be carried out adequately.

Members of the 80th Congress have studied the broad field of aviation thoroughly in several different committees which have given effect to the more important recommendations of the Congressional Aviation Policy Board. This Board, composed not only of Congressional leaders but of top men in industrial and commercial aviation, devoted many long hours to an exhaustive study which has secured wide approval.

### Five-year Program

I believe that in five years the United States will have such a powerful Air Force and Air Arm of the Navy that war involving the United States will be unlikely.

Further, Congress is seeking to aid the proper development and expansion of our commercial air transport, both passenger and

Speed of transportation in the United States has been a factor in our prosperity of the past. Today greater speed can be secured by air. The government wishes to cooperate in the advancement of proper aims.

A measure which will authorize the design of prototypes\* for car-

go planes for long hauls and for short or pick-up hauls was passed by the House on the last day of the session. The best designs will be selected by a competent board. The transports are intended to provide planes which can be operated by commercial lines on a profit basis while serving as possible auxiliary planes in time of war. Meanwhile, the Air Force would be using them for its own needs.

### Rebirth of Industry

Other measures have provided for better travel protection, for the development of airfields and for countless other purposes allied to aviation. I believe that the 80th Congress has made possible a rebirth of the aviation industry while establishing the most modern military defense and the best commercial lines in the world.

There is a real danger, however, that adoption of the military appropriations and authorizations and the announcement of original purchase orders will delude the public into thinking that the task of rebuilding American air power is completed.

### First Step

Purchase orders announced early in June by the Air Force and the Navy constitute merely the first step toward a long-term program. That long-term program provides an orderly step-up in the production of new and modern aircraft each year so that by the end of 1953 or in early 1954 our two air striking arms should be equipped with the world's best airplanes, and will be maintained at this level.

It is because of the overall limiting tendency of time—time required to design and develop an airplane and time to expand production of airplanes that it is absolutely necessary that this country follow an orderly long-term program of aircraft procurement.

## HERE'S WHAT AMERICA GETS IN IT'S EXPANDED AIR FORCES

### 70 GROUP USAF — 12,400 FIRST-LINE PLANES

1st LINE STRENGTH	GROUPS
Heavy, Medium Bombers	21
Light Bombers	5
Fighters	25
Reconnaissance	9
Troop Carriers	10
+22 specialized squadrons (rescue, tow target, etc.)	34
<b>AIR RESERVE</b>	<b>27</b>
<b>AIR NATIONAL GUARD</b>	<b>27</b>

(Size of a group varies from 18 heavy bombers to 48 fighters. In war, groups are larger. Usually three squadrons form a group.)

### NAVAL AIR ARM — 8015 FIRST-LINE PLANES

1st LINE STRENGTH	GROUPS
Carrier Attack	24
Marine Amphibious	6
Marine Support	27
	<b>SQUADRONS</b>
Carrier Support	16
Patrol	40
	<b>GROUPS</b>
<b>NAVAL RESERVE</b>	<b>8</b>
Carrier Attack	7
Marine Support	7
	<b>SQUADRONS</b>
Carrier Support	8
Patrol	12

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## Time is Vital Factor

Called upon to triple its rate of output, the U. S. aircraft industry finds that time is its most precious element in meeting demands of Congress' new air expansion program.

Replacement needs of the enlarged Air Force and Naval aviation will require the industry to reach an annual rate of more than 4,000 planes by early 1950. Annual output of combat planes has averaged about 1,400 per year since VJ Day.

In terms of man-hours required, a 1948 combat plane is nearly ten times as difficult to design and produce as were planes designed and produced prior to 1942. Where our first World War II four-engine bomber required only 150,000 engi-

neering man hours, its 1948 counterpart consumes 1,400,000 hours.

Speeds have increased from 300 miles per hour to 600 plus and operating altitudes have climbed from 30,000 to about 50,000 feet. This has complicated the design of structures as well as accessory and control equipment. Higher speed, higher altitude planes put a premium on greater accuracy in all directions.

Delivery of materials and parts is a particularly time-consuming process. Aluminum, for example, takes better than a year from mine to assembly. Delivery time for propellers is about eight months; and for some engine units, eight to ten months, and up to two years in the case of new-design jets.

\*The bill was not approved in the Senate.

# Congress' Vote 1st Step in Plan

It takes a lot of doing to translate a vote of Congress into redoubtable air power for the United States.

Outlined below are the major steps which must be taken to get the expansion program fully under way.

## Equipping the Larger Peacetime Air Forces

June 1948 Congress votes \$3,198,100,000 for USAF, Navy.

Secretary of Defense releases funds—\$692 million held back.

Manufacturers bid, Air Force and Navy award contracts.

Prime contractors reorganize and tool up existing plant facilities, enlarge staffs.

Last-minute refinements incorporated into production models.

Prime contractors order parts, accessories, materials from sub-contractors.

Flow of materials, parts begins.

Spring 1950 Required rate of output is reached.

## Manning and Operating the Larger Air Forces

June 1948 Congress authorizes USAF, Navy to expand air power.

USAF, Navy open recruiting quotas to obtain additional personnel.

Training programs accelerated. New type planes will mean considerable retraining.

Surplus war planes taken out of cocoons, re-activated.

Air bases in U. S. and overseas reopened.

World-wide communications and weather system extended to handle greater traffic.





Transport and supply systems expanded. Additional fuel and supplies ordered.

Expanded forces manned and operating by July, 1949, but not fully modernized—replacements drawn from war surplus.

Spring 1950 Quantity deliveries of new planes permit gradual modernization of forces.

## FUNDS VOTED BY CONGRESS FOR AIR BUILDING PROGRAM

(July 1948 - July 1949 in millions)

	U.S. AIR FORCE	U.S. NAVY	TOTAL
 Airplanes	\$1,962.0	\$738.7	2,700.7
 Guided Missiles	10.0	9.3	19.3
 Air Materiel for Army	10.0	—	10.0
 Industry Planning	4.0	4.5	8.5
+ \$449.3 million for equipment, cash for previous authorization, etc.			<b>GRAND TOTAL</b>
			<b>\$3,198.1</b>

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## "Balanced Force"

A new definition of "balanced force," a catch-phrase circulated widely during debate on the 70-group air expansion program, has been developed by Senator Styles Bridges (R., N. H.).

According to the Senator, who is Chairman of the Appropriations Committee, "The balance we need is that combination of armament and men which will throw up the strongest wall of defense and pack the heaviest punch of offense. . . . There can be no justification for absolute ratios between the three services or of vested interests of any service in particular numbers of men or amounts of appropriations. The balance required is an external military balance, not an internal political balance to preserve the relative status of any one service."

## Light Planes Save Time, \$ \$

Personal planes are viewed as time and money savers, and as business-builders, by a big majority of manufacturing and distribution firms in a "users" survey conducted by Aircraft Industries Association.

Sixty-four per cent of firms operating light personal planes cite the time-saving advantage of their business planes. Twenty-two per cent report planes have greater utility and cost less per mile than surface vehicles.

"Planes at Work," a booklet outlining the survey results, is available free from the Aircraft Industries Association, 610 Shoreham Building, Washington 5, D.C.

## Analysis of Air War Published

The first book in a seven-volume history of the Air Force in World War II has just been issued by the USAF and the University of Chicago Press.

Entitled "Plans and Early Operations," it covers the period January 1939 to August 1942. It is 800 pages in length, written in very readable style, and edited by James Lea Cate, Associate Professor of History, University of Chicago, and Wesley Frank Craven, Professor of History, New York University.

This monumental undertaking is being carried out by professional historians. Professors Craven and Cate point out that the project was begun with the understanding that it would be "written without suppression of or distortion of significant facts."

In a foreword note the editors of this first volume report that the large staff of historians working on the project has been guided by an admonition of General George C. Marshall. The General had warned that historians "have been inclined to record victories and gloss over mistakes and wasteful sacrifices."

Volume One is five dollars per copy.

## 453 Seaplane Bases

This summer, America's vacationers can reach 453 hunting, fishing and bathing spots via approved seaplane bases. Maine, with seaplane facilities at 40 points, and Florida with 29, lead all other states in the U. S. in float plane bases.

## Dollars Build a Striking Force

This year the U. S. will spend for development of its air force \$3.2 billion—less than the amount Americans spent last year for movies or tobacco. A breakdown of the combat elements in the new air forces shows what the taxpayer gets for the air forces expenditure.

For their air security dollar, Americans will receive (1) ample striking power to discourage would-be war makers; (2) to turn back any possible attack against the U. S.; and (3) an aircraft industry in readiness for rapid expansion and capable of supplying the air forces with continually improved equipment.

### First-line Strength

New appropriations for our air forces will start us on the way to an Air Force of 12,400 first-line planes, organized into 70 groups and 22 specialized squadrons. They are aimed at providing a Navy air arm of 8,015 first-line planes, divided among 57 Navy and Marine Corps groups. The Navy also will have 56 first-line patrol and carrier support squadrons.

### Reserve Forces

Backing up these basic forces, Congress has approved plans for an Air Force Reserve of 34 groups and an Air National Guard of 27 groups. The Naval Air Reserve will include eight carrier attack groups, seven Marine Support groups, eight carrier support squadrons and 12 patrol squadrons.

To equip these air forces with modern planes and at the same time provide an aircraft industry capable of rapid expansion, Congress has authorized procurement of 4,262 new combat planes in fiscal 1949. Orders already have gone out for 3,365 of these.

## Fact Sifters

A review of developments leading up to Congress' recent vote for air expansion shows the exhaustive study that precedes such a broad program.

During the war, legislators visited all fighting fronts to observe the decisiveness of air power. After VJ Day, they began questioning hundreds of military leaders and leading citizens and experts in all lines. Studies by the Executive Department were placed in their disposal.

In the last three years our legislators have recircled the world and studied about 12,000 pages of aviation testimony and supporting data.

## How output of new plane program compares with war production record

### WORLD WAR II PROGRAM

ANNUAL RATE AT START



5,112\*

ANNUAL RATE AT START



2,400\*

ANNUAL RATE 18 MOS. LATER



26,460

ANNUAL RATE 18 MOS. LATER



4,000?

\*Annual rate, May 1940

\*Approximate annual rate, July 1948

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## U.S. Wants Big Airlines System

has become apparent, from actions of Congress and the Executive Branch, that the government means to match development of military air power with a greatly strengthened commercial air transport system.

Congress passed legislation to provide a nationwide air parcel post system. A bill has been enacted into law authorizing the Civil Aeronautics Administration to assist foreign governments in improving key international airports used by U. S. airlines.

### Cargo Plane Bill

Other bills introduced but not finally acted upon in the last minute rush for adjournment would provide for the transport of all first class mail by air and would set aside federal funds for development of new type transport planes.

As an offshoot of the unification of the armed services, the USAF's Air Transport Command and the Naval Air Transport Service recently were integrated into a single new world-wide organization — the Military Air Transport Service.

### Need 5,000 Planes

Importance of a strong civil air transport system was demonstrated in World War II when the services requisitioned more than half of the commercial plane fleet.

Military estimates suggest the need for possibly 5,000 large

transport planes in an emergency. By 1950 the U. S. domestic and overseas operators expect to have a fleet of about 1,000 craft, some of them small, two-engine types.

### Airways Program

The Secretaries of Defense and Commerce recently announced appointment of an Air Navigation Development Board to develop a single airways system to meet needs of civil and military operations.

Also well along is a billion-dollar civil airport program.

## Summer Courses In Air Education

This summer several thousand U. S. teachers are attending aviation education seminars at about 80 colleges. Object of these intensive courses is to give teachers of every subject matter area and every grade level a grounding in aviation. Thus equipped, each of them will be able to work aviation meanings into the daily teaching of 30 to 300 youth.

Academic credit is awarded in most cases. The courses include both laboratory and field work and last from one to six weeks. The Civil Aeronautics Administration is assisting with the program.

In its recent report, the Congressional Aviation Policy Board asked for "an aeronautical education program . . . throughout the public school system . . ." That could mean about 500 such aviation education seminars each summer.

## Swarm of Civil Defense Planes

America's Civil Air Patrol, with its potential of 98,000 planes, will play an important part in warding off any attack against the United States, Department of Defense studies indicate.

In a recent analysis of the civil defense needs of the U. S., the Department recommended development of auxiliary services for fire, rescue, emergency medical treatment, and police patrol.









During the last war the Civil Air Patrol conducted coastal, anti-submarine and border patrol; emergency ferrying of vitally needed parts for industry; courier service; forest patrol; rescue missions for lost or missing aircraft; and mercy flights.

By an act of Congress the CAP has been established as a permanent auxiliary of the USAF. The USAF now is authorized to sell or give obsolete equipment to the CAP and to assist in training it.

Organized just before the entry of the United States in World War II, CAP now is established in all 48 states and in Alaska and Hawaii. There are 427,000 personal pilots in the U. S. eligible for patrol tasks in an emergency.

Commenting on the work performed by civil pilots in the last war, Secretary of the Air Force Symington recently stated "both from the standpoint of economy and availability, the light aircraft would continue to be best suited to carry out these missions as heretofore."

## U.S. AIRLINE GROWTH

1940	1947
NUMBER PLANES	
 360	 800
ROUTE MILES	
 44,600	 111,000
PERSONNEL	
 15,800	 61,700
PASSENGERS CARRIED	
 3,000,000	 13,200,000

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## Traffic Jams on the Airways

America's airways are overcrowded. Tremendous increase in air travel since pre-war days — via scheduled airlines, military, charter and "tramp" transports, and personal planes — is the reason. To resolve bottlenecks, the government plans a big airways remodeling program — its goal — the expansion of a two-lane "highway" to 10-lane width.

The comparisons in the chart above show how scheduled airline traffic has mounted on domestic routes.

## PLANES QUIZ

Seventy per cent score on this quiz is excellent. Sixty per cent is good.

1. True-False. New jet fighters go so fast there's danger they'll out-fly their own bullets.



2. True-False. Recent unification of the armed forces put all combat aviation under a single new U. S. Air Force.

3. True-False. When a large terminal airport is built, real estate values in the area always drop.

4. Since the start of service in 1918, Americans have spent for air-mail postage about (a) 158 million dollars; (b) about 500 million dollars; (c) nearly 250 million dollars.

5. Showing continuous progress of aviation since the Wright Bros' first flight at 28 m.p.h., plane speeds have increased (a) 50 miles per year; (b) 14 miles per year; (c) 21 miles per year.

6. What is your guesstimate on the cost of the six propellers on our largest bomber in production today? (a) \$120,000; (b) \$60,000; (c) \$168,000.

7. Congress' air policy board has asked top research priority to develop NEPA, (a) a high-test rocket fuel; (b) a project for atomic airplane engines; (c) a plan for a billion-dollar air research center.

8. During 1947 the Port of New York handled (a) 37,200; (b) nearly 200,000; (c) about 64,000 trans-Atlantic airline passengers.

9. The U. S. Navy now has (a) 25; (b) 19; (c) 11 first-line aircraft carriers with the fleets.



10. How high do the clouds reach (a) seven miles; (b) four miles; (c) three miles?

# 80th Congress Moved 20 Bills

Twenty aviation bills were passed and sent to the President for signature by the 80th Congress, a summary of the legislative body's second session reveals. Thirty-some aviation bills were introduced.

Twenty-three bills were introduced by the Congressional Aviation Policy Board to implement findings of its report issued in March this year. Seven of the Board's bills were passed.

### Boosted Air Power

In many ways the most important measure enacted into law was the Supplemental National Defense Act of 1948, providing funds for equipping a 70-group Air Force and a Naval air arm of 8,100 first-line planes. Companion to this action were the acts which appropriated operating funds for an enlarged USAF and Naval Aviation.

Measures passed by the 80th Congress provide for an air parcel post system with rates ranging from 55 cents to 80 cents for the first pound; make the Civil Air Patrol a permanent auxiliary of the USAF; direct the Maritime Commission to study development of commercial lighter-than-air craft; and order the Weather Bureau to conduct research on thunderstorm characteristics.

### Airways Improved

In order to promote modernization of airline fleets, Congress passed Public Laws 692 and 656 to simplify financing of airline equipment purchases. It adopted five measures to expedite growth and improvement of the federal airways, aviation's lighthouse system.






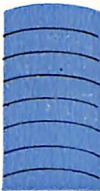
In the field of industrial preparedness, Congress provided authority to maintain an aviation industrial reserve of 254 plants.

### Bills Held Up

Among the most important bills which failed of passage were those to authorize full-strength personnel for the 70-group USAF and to establish a five-year program for aircraft procurement. Another measure high on the priority list for the next Congress would provide government funds and supervision for the development of new type transport planes.

Other bills which will have to be brought up again in the next Congress include: to establish a standing joint committee of Congress on aviation policy; to establish an independent office of air safety; to transport all first-class mail by air; to repeal federal taxes on transportation; and to prevent multiple taxation of air commerce.

## WHY PLANE DEVELOPMENT COSTS MORE THAN BEFORE WORLD WAR II

	PROTOTYPE MAN-HOURS REQUIRED	LABOR, OVERHEAD COST PER MAN-HOUR
 <b>4</b> <b>ENGINE</b>		
<b>1939 BOMBER</b>	<b>150,000</b>	<b>\$1.40</b>
 <b>4</b> <b>ENGINE</b>		
<b>1948 BOMBER</b>	<b>1,400,000</b>	<b>\$3.15</b>

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## USAF, Navy Buy Many Jet Planes

In numbers of planes, the emphasis of the new air expansion program is on jet fighters, a breakdown of the equipment needs of the Air Force and Navy reveals. All of the new Air Force fighters will be jets, while the Navy will procure propeller-jet combinations.

About 2,300 fighters, including 1,575 USAF jets, are covered by funds authorized for the coming 12 months. Eighty-seven per cent of such funds has been released for contracts by the Secretary of Defense.

In addition to fighters, the Air Force program embraces 243 bombers and 909 utility types, including transports, liaison, trainers, etc.

The Navy proposes to acquire 807 fighters, 515 carrier attack planes, 113 patrol craft, 20 transports and 80 helicopters.

## Air Council Booklets

The National Air Council has recently published a two-color, twenty-page booklet entitled, "Time is Running Out." A free copy of this booklet may be obtained by writing to the National Air Council at 350 Fifth Avenue, New York 1, New York.

Three small four-page leaflets which crystalize the facts on air power have also been prepared. These leaflets may be obtained in quantity and without charge by writing to the National Air Council.

## All Services Are Using Helicopters

Plans of the USAF, Army, Navy, Marine Corps and Coast Guard call for extensive use of helicopters for rescue work, artillery spotting, communication, and control of troop movements.

The Army plans to station helicopters at more than 50 posts. They have proved themselves for combat observation and ambulance work, and for controlling the movement of ground divisions. The Marine Corps is finding similar uses for them.

### Replace Destroyers

Eventually a helicopter will be based aboard each aircraft carrier in the Navy, replacing destroyers now used for "guard" duty to pick up pilots who land in the ocean. The helicopter also will be used for communications within the task forces, hauling mail and personnel between ships.

The Air Force and Coast Guard will continue to rely on helicopters principally for rescue work, a task which they have been performing from the Arctic to the jungles of South America for the past several years.

## Peace Insurance

As Peace insurance, the US AF and Navy plan to spend about \$8,000,000 in the next year for industrial mobilization planning. As part of this program, the Air Force will have 40,000 production tools packed away for a future emergency.

## Facts and Figures

Texas boasts more airports than any other state. California second.

U. S. researchers have sent rockets as high as 235 miles into the ionosphere.

The first official air mail was flown via balloon August 16, 1859 from Lafayette to Crawfordsville, Ind.

During World War II, transports of the U. S. Air Force flew more than 4,000 supply missions to Tito's forces in Jugoslavia.

U. S. banks are now speeding credit availability, using planes to transfer checks and cash.

Effective use of fighter planes from ships dates back to 1912, when the catapult was introduced.

First American planes in combat service in the first World War were Navy flying boats.

At peak power in World War II the Air Force had 243 war-strength air groups.

Today's best ocean crossing England-New York is five days. In that time U. S. airlines can fly way around the world.

Aviation is changing the economic and political tempo of the world.

More than 30,000 employees of the scheduled airlines, or one out of 3, are World War II veterans.

45 per cent of personal planes sold in 1947 were factory-equipped with radio. In 1946 less than 9 per cent were so equipped.

Recently the government issued the first approval to a jet engine for commercial transport use.

## Answers to Plane Quiz

- False. In recent gunnery tests, U. S. jet planes have achieved better records than pre-war propeller planes.
- False. The Unification Act provides for a Navy Air Arm and Marine aviation as separate forces.
- False. Two years after New York's La Guardia airfield was finished, adjacent real estate values increased 20-fold. Other examples — Denver, Kansas City, Mo., Austin, Tex.
- (b)
- (b)
- (c) They're 19 feet in diameter.
- (b) Nuclear Energy Propulsion for Aircraft.
- (b)
- (c)
- (a) The atmosphere is cloud-free above 40,000 ft.