

# PLANES

ALL MATERIAL  
MAY BE  
REPRODUCED

NEWS OF THE  
AVIATION  
INDUSTRY

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## American Farmer Wants Air Leadership—O'Neal

Written especially for PLANES

by Edward A. O'Neal, President, American Farm Bureau Federation

The U. S. farmer has a deep interest in aeronautical research, and he wants it continued at a high level; first, because he realizes that this country must maintain its leadership in aerial technology for security reasons, and second, because in the near future he will use air transport increasingly for travel and for shipping certain commodities.

I'm quite sure that farmers devoutly hope that this country will never again be caught so vulnerable to attack as we were on December 7, 1941. Farmers know that just a few billions spent on air power previous to that time would have saved uncounted billions in wealth and many precious American lives.

Fate has catapulted our country into a position of world leadership. We cannot discharge the responsibilities which that leadership imposes unless we maintain our position as the foremost air power of the world.

The course of world history during the next century will depend largely on what we do in this country. If anyone believes that the farmers of America favor a policy of living "to ourselves alone," such a person is tragically mistaken.

The advent of the low-cost, safe, and easily flown plane means a lot to farm and ranch people. Farm boys, most of whom are mechanically minded to a notable degree, take to air travel as a duck takes to water. Planes are now in use for dusting, seeding, range patrol, coyote hunting, and many other uses. Plane transportation of high-quality, perishable foods offers some interesting possibilities. It's my guess that ten years from now farmers will be using air transportation to a degree that few people envision today.

### Farmers Back Air Development

Leading farm organizations of the United States have recorded their recognition of the value of aviation developments.


The American Farm Bureau Federation represents 985,000 farm families and says "Transportation of farm and other products by air is here. Its relative importance will be measured only by time, vision, improvement and freedom of opportunity to expand. Speed, efficiency in refrigeration and constantly lowering rates with increased services are among the factors indicating that ever increasing tonnages will be moved by air."

The National Grange, speaking for 750,000 families, has said "Transportation by air in the post-war period will assume an economic importance to agriculture and to the nation as a whole far beyond that which existed prior to World War II."


A third great farm group, the National Council of Farm Co-operatives, speaking for 2,300,000 farmer consumers, has passed a resolution stating "We favor the preservation and maintenance of technological improvement and scientific advances in all modes of transportation. . . ."

## U. S. MILITARY AIRCRAFT PRODUCTION vs U. S. NEED

### SCHEDULED 1946 PRODUCTION

 2000

### ARMY - NAVY - COMMERCE - RECOMMENDATIONS

 \*3000

 \*5780

\* Compilations of the Air Coordinating Committee, an Army-Navy-Commerce Department group. The ACC minimum annual production requirements for military aircraft is based on a world at peace and partially disarmed. The ACC maximum is based on the need for a striking force ready to maintain peace.

## U. S. PRODUCTION VS. FOREIGN PRODUCTION

 2000

 4000  
\*ESTIMATED

 ?

\* America's 1946 production is slightly less than 2000 military planes. Closest estimate of British production, which is under those claimed by the Society of British Aircraft Constructors, is twice the U. S. figure. Russia is an unknown factor, but experts agree that it is higher than U. S. production

"Planes"

### 1945 Military Production

Military aircraft production dropped nearly 97 per cent in nine months during 1945, from a peak of 7,530 in March to 252 in December, a month-by-month

statistical comparison revealed. The breakdown, with figures showing annual production by types, including gliders, appears on page two of *Planes*.

## Teamwork Asked by New AAF Head

Upon General Carl A. Spaatz' appointment as Chief of the Army Air Forces, Eugene E. Wilson, Chairman of the Board of AIA, sent him a congratulatory letter which said "the guidance of the Air Forces in the next few years will settle the fate of the United States for years to come."

Following is the text of General Spaatz' reply:

"I very much appreciate the kind comments of the aircraft industry on my appointment as Commanding General of the Army Air Forces.

"In both the European and Pacific Theaters of the war, I was able to see the tangible results of the teamwork and cooperation of the AAF and the industry. The tremendous strides we made in research and development during the war years were obvious to our fighting groups, and to the enemy. This is a teamwork reflected in progress which we must

maintain, and as Commanding General of the Army Air Forces I can assure you the utmost cooperation on the part of the AAF.

"This cooperation which has been so marked between the AAF and industry should be extended for national security no longer rests upon Air Forces alone, or ground forces or navies alone. Security, to be anything other than a false skeleton, must become a responsibility of the entire nation.

"The security of this country, the preservation of world peace and the extension of the benefits of the Air Age depend upon continued research and development and upon a production reserve of weapons far beyond the capacity of any potential enemy to produce. To that end it is essential to the preservation of the American way of life that our teamwork continue through the years to come."

## Ex-AAF Chief Pioneered Air Force of the Future

Unlike Brigadier General Billy Mitchell, his predecessor in the crusade for air power, General of the Army Henry H. Arnold last month retired from active duty confident that his efforts have not been in vain.

His retirement followed the close of a war which brought development of the Army Air Forces from a feeble 1,000 planes in 1939 into the mightiest air force the world has ever known.

But perhaps even more than for direction of this development, he probably will be known to history as the great pioneer of the "Buck Rogers" air force of the future, and of the world-girdling air transport system now coming into being. While developing quantities and types of planes to win the war, he developed plans projected far ahead of today's needs.

A fundamental in assaying his success is the fact he insisted upon maintaining an AAF and a manufacturing industry capable of expanding harmoniously as well as rapidly. From the start he advocated hand-in-glove collaboration between the industry and the air forces. Historians are recording the influence this policy had on our victory.

### AIR POWER DOCTRINE

When General Arnold started his aviation career with the Signal Corps in 1911, our air power relied on balloons. In 1912 the Army owned two planes. But on VJ-Day his Army Air Forces had 26 different types of planes, including 3,500 super-bombers alone.

General Arnold's retirement focuses attention anew on his basic principles for adequate air power:

1. To maintain a striking

air arm is being.

2. To keep the AAF and the aviation industry able to expand harmoniously as well as rapidly.

3. To support an alert and aggressive system of commercial air transportation—one of the foundations of American Air Power.

4. To promote scientific research and development, and to maintain a close contact with industry.

### "Wings Over America"

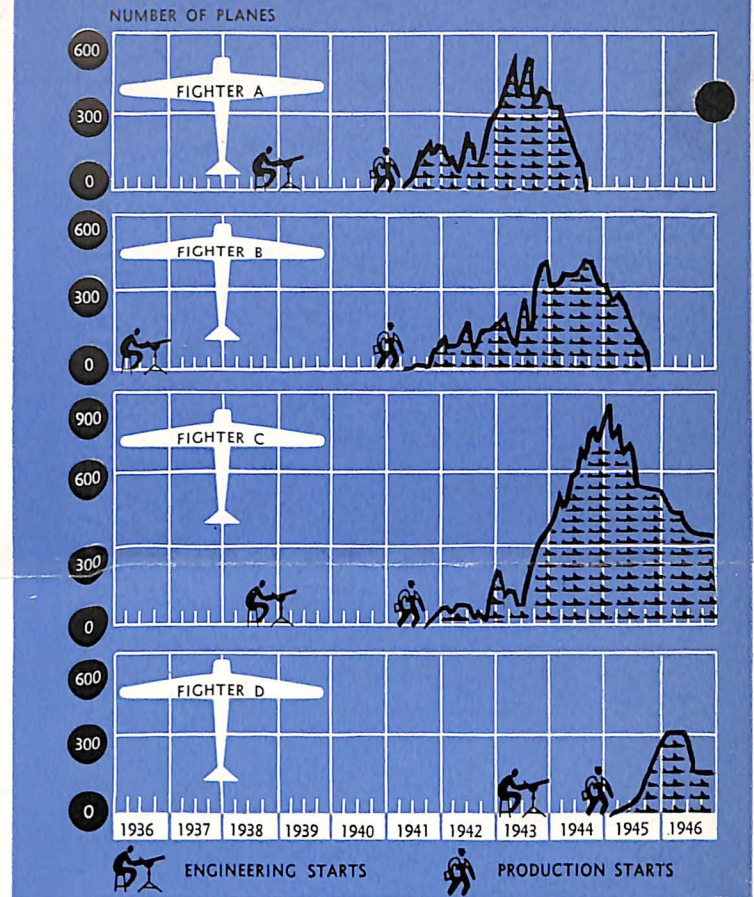
A pamphlet, "Wings Over America," one of the most concise, lucid discussions of aviation's impact on our lives, has just been issued by the Public Affairs Committee.

John Stuart, author of the pamphlet, is an aviation reporter on the New York Times, and long a specialist on the subject.

Drawing upon a wealth of research, the author has evaluated the importance of military, commercial and private flying to the development of air power. Copies of the pamphlet, No. 114, are available from the Public Affairs Committee, 30 Rockefeller Plaza, New York 20, New York, for 10 cents a copy.

## FIGHTERS GROW OLD FAST

DESIGN PROGRESSES QUICKLY OBSOLETE MILITARY PLANE



"Planes"

## Production Record

### Military Aircraft Production in 1945\*

#### By Months

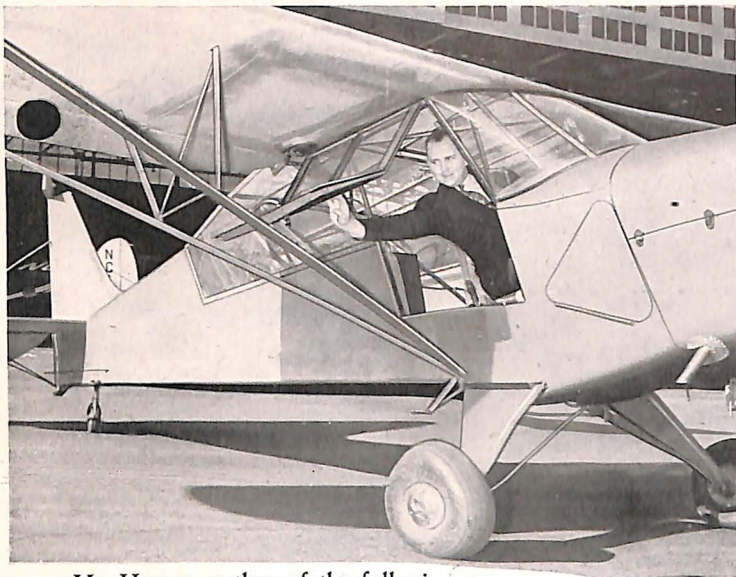
January	6,825
February	6,642
March	7,530
April	6,877
May	6,894
June	6,365
July	5,315
August	3,099
September	774
October	470
November	256
December	252
<b>TOTAL</b>	<b>52,191</b>

#### By Types

Bombers—		
4-engine	6,866	
2-engine	4,510	
1-engine	5,177	
<b>TOTAL</b>		<b>16,553</b>
Fighters—		
2-engine	2,129	
1-engine	19,675	
<b>TOTAL</b>		<b>21,804</b>
Photo and Naval Reconnaissance		448
Transports—		
4-engine	751	
2- and 1-engine	3,883	
<b>TOTAL</b>		<b>4,634</b>
Trainers		1,300
Liaison		1,922
Rotary Wing		249
Special Purpose		896
<b>GRAND TOTAL</b>		<b>52,191</b>

\*Includes 3,476 gliders.  
"Planes"

# Weather Forecast



Mr. Haynes, author of the following, is a pilot himself.

## Weather Maps by Wire to Help Private Flier in New Program

*Written especially for Planes*

by B. C. Haynes,\* Chief, Observations Section, U. S. Weather Bureau

In the midst of applying to commercial flying many of the war's advances in aviation weather reporting and forecasting, the Weather Bureau is beginning a study to develop special protective services for the private pilot.

In order to provide adequate protective services for the itinerant flier, the Bureau has instituted its study. Pilot meteorologists will work with personnel of the Bureau's Airway Forecast and Flight Advisory weather services in investigating means of disseminating warnings of unfavorable weather.

Already, transmission of weather maps and pictorial forecasts by facsimile or wire photo methods is being experimented with in several places. Such pictorial presentation of the weather would largely overcome current difficulties of describing moving weather phenomena in time and space. If such a system is established, local facsimile loops would provide the operator of the private port with up-to-the-minute weather maps and forecasts.

Besides planning for the benefit of personal aviation, the Weather Bureau has been busy converting war facilities for the use of commercial fliers.

### UPPER AIR STATIONS

The most notable contribution military operations have made to commercial flying is the establishment of thirty-five upper-air radio finding stations. From these stations wind direction and speed up to thirty or forty thousand feet can be obtained twice daily.

Known as "rawinsonde," the

upper-air wind system employs a radio direction finder to obtain direction and elevation angles on a balloon-borne high frequency transmitter. In addition to wind, the elements of pressure, temperature and humidity are transmitted continuously during the ascent.

Frequent and accurate wind observations and forecasts are important, especially to the long-distance or overseas airline, in planning a balance between payload and fuel load. For the benefit of such operations, the Bureau expects to expand this upper-air system within a few years to at least 75 stations in continental United States.

### WEATHER FLIGHTS

As a result of the experience of the strategic air services during the war, the Weather Bureau is experimenting with weather reconnaissance flights to obtain reports over land and water areas where surface observations are far apart.

In an effort to develop a complete service of this nature for the continental United States, the Bureau has set up an experimental project at the Washington National Airport. Eleven airline and military offices are connected by a local teletype circuit for the purpose of collecting and disseminating in-flight weather reports.

# PLANE QUIZ

A 70 per cent score on this quiz is excellent. Sixty per cent is good. Answers on Page 4.

1. The aircraft industry will produce (a) 5,000; (b) 30,000; (c) 125,000; personal planes during this year?



2. During the war the aircraft industry built (a) 125,640; (b) 286,490; (c) 304,705; military aircraft?

3. The conversion of a four-engine military transport into a passenger airliner costs between (a) \$10-20,000; (b) \$60-90,000; (c) \$150-200,000?

4. American aircraft production of all types this year will approximate (a) 7½ per cent; (b) 22 per cent; (c) 47½ per cent; of that during 1945?

5. In defeating the heat problem,

developers of the jet engine had to produce a metal capable of withstanding Fahrenheit temperatures of (a) 650°; (b) 900°; (c) 1200°.

6. Pilots in unpressurized cabins must start using oxygen at (a) 4,500; (b) 10,000; (c) 17,500; feet altitude?

7. Both jet propulsion and conventional propellers may be used on the same engine. True. False.

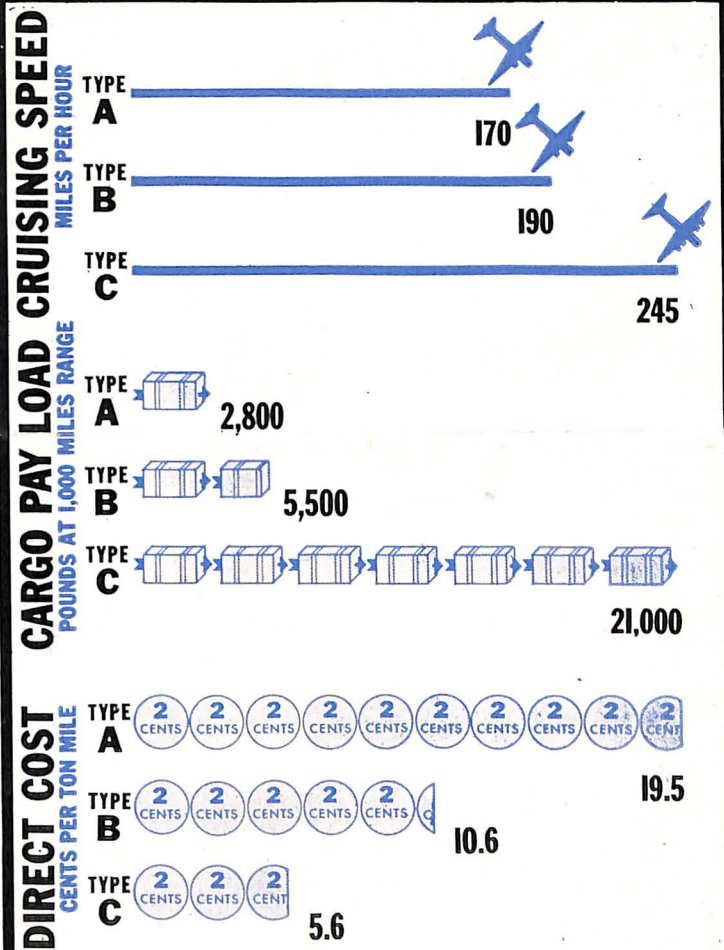


8. Mark Twain said: "Everybody talks about the weather, but nobody does anything about it." Is this still true of foggy weather?

9. Two airplanes, flying in opposite directions may both have tail winds. True. False.

10. The federal government has financed (a) 23 per cent; (b) 45 per cent; (c) 75 per cent; of the cost of building the nation's airports?

## ENGINEERING ADVANCES ASSURE MASS AIR TRANSPORTATION



"Planes"

\*Author, *Meteorology for Pilots*, CAA Bulletin No. 25.

# Standards Key To Economies

The National Aircraft Standards Committee, wartime spearhead of an industry-wide program for materials conservation, now is concentrating on manufacturing economies, its ultimate objective being to hand such savings down to the buying public in lower prices.

NASC coordinates and directs studies on standardization of aircraft parts and manufacturing techniques and processes for the 72 company members of the Aircraft Industries Association.

During the war its credo was conservation of materials and time in the production of planes. By promoting general adoption of standard basic parts it made possible interchangeability and helped the aircraft industry to accomplish its outstanding production job.

The NASC contributions of time-saving procedures were most important from the standpoint of war production. In addition through effecting standardization of essential and widely-used parts and processed materials, and by devising time-saving methods, and stock and parts catalogs, the committee saved millions of dollars for the government.

## MILLIONS SAVED

In one year a manufacturer reduced scrap by 15 per cent and rework by 40 per cent through use of one NASC system.

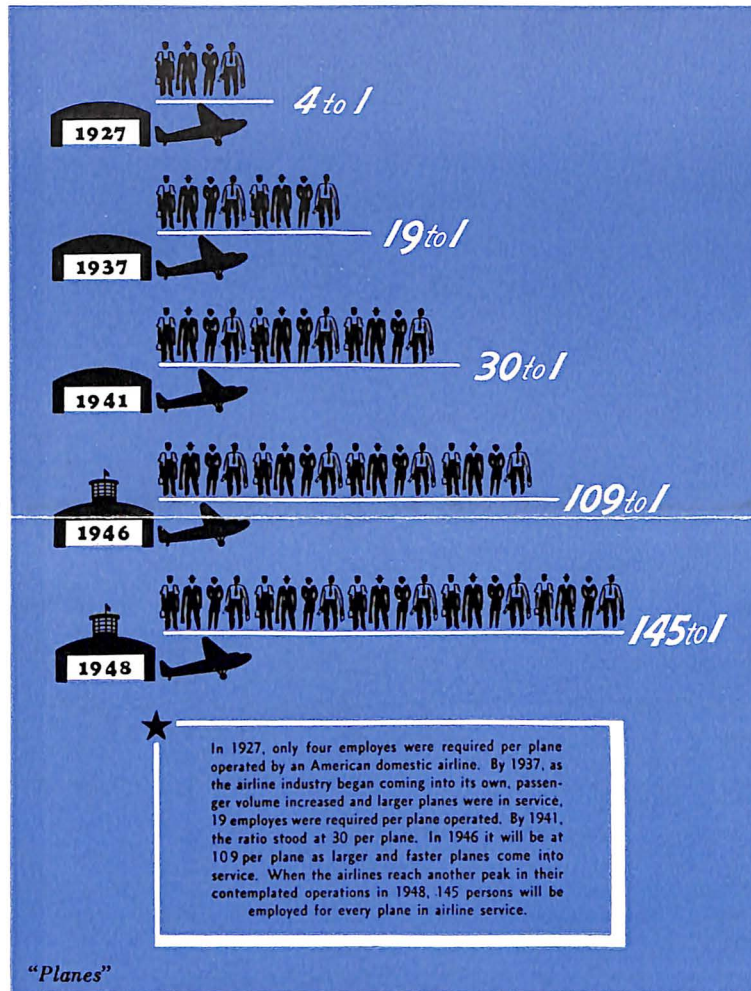
As an example of monetary savings, the 1945 report of the committee cited five manufacturers who saved \$1,597,693 through adoption of NASC-established parts and procedures, savings which reverted to the government through lowered cost of airplanes.

In 1944, one company saved a quarter of a million through substitution of standard plain bearings for the previously used precision bearings. A control wheel for military aircraft which cost \$24 as a company standard was procurable as a national standard for eight dollars. Cost of precision bolts was reduced 75 per cent for one type, permitting a saving of nearly \$5,000 on an order for 5,000 bolts.

The German armies were just getting started when the first meetings were held to discuss this industry standardization program. That was back in 1939, when on both east and west coasts standards engineers got together to discuss speeding production through adoption of standard parts. As a result of their spadework, early in 1942 the NASC came into being. It was put right to work on emergency problems.

## AIRLINE EMPLOYES:

### GROWTH OF NUMBER PER PLANE



## Press of the Nation Lauded For its Interest in Air Power

The newspapers of the United States have been accorded high praise for their recognition of the revolutionary aspects of air power development and their intelligent interpretation of its impact.

Typical of the recognition given the press of the country is the award of the Frank M. Hawks Memorial Trophy to The New York Times and Arthur Hayes Sulzberger, its publisher, in recognition of their contributions to the development of aviation. The award, sixth of an annual series, was decided upon by a committee of distinguished fliers, members of Air Service Post 501, oldest aviation post in the American Legion.

Another demonstration of the aviation industry's recognition of the contributions of newspapers is the commendatory telegram read to the Associated Press Managing Editors at their recent convention. Sent by Mr. E. E. Wilson, Chairman of the Board of Governors of the Air-

craft Industries Association, it said, in part:

### COMPETENT JOB

"We of the aviation industry are keenly aware of the competent, workmanlike job performed by the newspapers of the United States in picturing the growth of air power and the impact it will have on the America of the future. It has been a task all the more difficult because no revolutionary development in our civilization is simple to project against the face of history. In spite of its drama and the intense concentration of the armed services in building it up and using it effectively, the projection of our new air power has not been easy, and credit greater than is generally recognized is due the press for its part.

## Facts and Figures

California leads all other states in the number of licensed pilots by a wide margin.

A V-2 rocket bomb 52,000 horsepower.

More than 80,000 Army and 24,000 Navy combat aircraft will shortly have been declared surplus. They are unusable for civilian purposes.

At the close of the war, the Navy had 10,555 planes in the Pacific Theater of operations.

During the war about 10 per cent of the nation's total crude petroleum production was refined into aviation gasoline.

The standard superbomber fully loaded consumes about four hundred gallons of gasoline per hour.

The Navy will contract with the aircraft manufacturers for some 2,700 pilotless guided missiles during the 12 months ending June 1946.

When peacetime levels are reached, Naval aircraft are expected to total approximately 12,000 planes, of which more than 8,000 would be operational, the remainder spares. Less than a third of top war plane strength.

## Answers to Plane Quiz

- (b) Probably 30,000. This is far short of the 50,000 orders now on the books with more being added daily. Strikes and other delays may prevent the industry from reaching this total.
- (c) 304,705. This was more than all the airplanes built from the invention of the airplane to the beginning of World War II.
- (c) Between 150-200,000, depending on the amount and type of equipment required.
- (a) Between 5 and 10 per cent estimated. England's will be nearly 30 per cent and Russia is believed to be building 75 per cent of her aircraft output last year.
- (c) And the miracle metals they developed can withstand centrifugal forces equal to 50,000 times their own weight.
- (b) 10,000. Higher altitudes contain insufficient oxygen for comfortable or adequate breathing.
- True. This unit is known as a "prop-jet" and has appeared in several new airplanes.
- No. Equipment for clearing fog in local areas has not been successful.
- True. Winds blow in different directions at different altitudes.
- (c) But only 50 per cent of future construction costs will be met by the federal government.