

WOMANPOWER—Your readers will want to know the increasingly important role girls are beginning to play in the aircraft industry's war effort. Col. 8.

RESEARCH—In back of every plane improvement lies thousands of hours of tireless research. Read a story of unsung heroes in Cols. 3 & 4.

HONORS—U. S. Army and Navy planes win high praise in encounters with the Japanese. See Col. 5.

EDITORS:

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Aviation News Features

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AERONAUTICAL CHAMBER OF COMMERCE Aviation News Committee

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LAUREN D. LYMAN Chairman. HOWARD MINGOS Secretary. LEONARD K. SCHWARTZ Vice-Chairman.

AEROQUIZ Shape of Wing Lowers Plane C.G.

Q.—What is a dihedral and what is its purpose? A.—A dihedral is a type of wing design in which the wing tips are raised above the center section portions of the wing.

Q.—How are planes tested for spinning characteristics? A.—To test aircraft for spinning characteristics, a model of the plane is connected to the wind tunnel balances and mounted vertically.

Q.—How is ice kept off the windshield in flight? A.—By means of a hand pumping system which is used to pump alcohol in the form of a spray on the outside of the windshield and side windows of the airplane cabin.

Let's Go! U.S.A.—Keep 'em Flying!

Allied Production Exceeds War Losses

WASHINGTON, March 00.—(ANF)—A strong indication of the trend for air superiority, which will be a major factor in final outcome of the war against aggression, is given the United States in the report by Great Britain of its air losses since start of the war.

With the 1941 plane production total of some 20,000 ships by the United States and added thousands by Canada and England, the figures are given even greater significance by the 60,000 plane production quota for 1942, the Aviation News Committee reports.

Last year's production rate by America alone was more than five times the total war losses announced by England. Production of the United Kingdom boosted the ratio even higher.

U. S. Trains Pilots For Latin America

WASHINGTON, Mar. 00.—(ANF)—Following an invitation from the United States Government, over 200 Latin-American youths are receiving aviation training in this country. They are being schooled as pilots, administrative aeronautical engineers, instructor mechanics, and airplane service mechanics.

Two-thirds of the pilot trainees are receiving instruction at 11 commercial flying schools supervised by the Civil Aeronautics Administration, while the remainder are at Randolph Field taking the regular Army Air Corps course, with the exception of military subjects.

Among the schools participating in this mechanic training are the Casey Jones School of Aeronautics, Newark, N. J., Curtiss-Wright Technical Institute of Glendale, Calif., and the Embury Riddle School of Aeronautics at Miami, Fla.

These Latin young men, who were awarded scholarships for this training by a Latin-American board of notable civil and military aviation figures, are the first contingents of a potential group of 526 who will be in training by May, according to an announcement by Charles L. Stanton, Deputy Administrator of Civil Aeronautics and Reed M. Chambers of Defense Supplies Corporation.

American Children To Be "Air-Conditioned" By Education Program

WASHINGTON, March 00.—(ANF)—A realization of the airplane's significance in the world of tomorrow has set in motion a nationwide movement to "air condition" America's youth.

Aware that the post-war period will find aviation occupying a position of supreme importance in both freight and transportation fields, government and other leaders are putting the movement into full swing on a dozen fronts.

One of the first campaigns to indoctrinate America with this air consciousness is being developed by Robert H. Hinckley, Assistant Secretary of Commerce. It was Mr. Hinckley, by the way, who two years ago inaugurated the Federal Civilian Training Program which resulted in the training of 75,000 pilots.

Initial move in Mr. Hinckley's "air conditioning" plan has been the formation of an Advisory Committee on Aviation Education. Dr. Ben Wood of Columbia University is Chairman of this board.

The committee is now contacting educators all over the country in an effort to introduce aviation into every possible aspect of pre-flying age education.

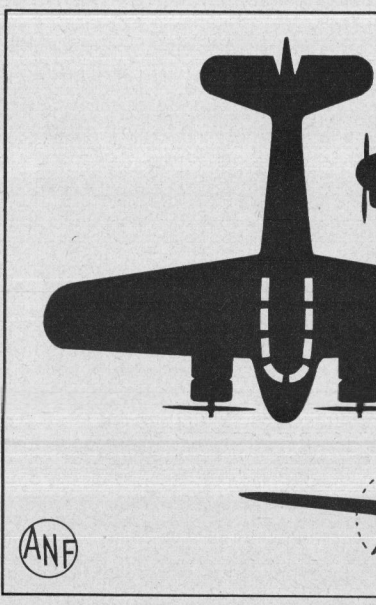
Model building, aerodynamics and similar subjects will be standardized. Efforts are also being made to introduce aviation angles into related subjects, such as physics, geography and mathematics. Support of text book writers and publishers is being sought in this latter connection.

Aviation studies will be introduced into courses for teachers this summer so that next fall, when school opens, they will be able to pass on the knowledge to their students.

The U. S. Office of Education and the Civil Aeronautics Administration are represented on the Wood Committee. Both are taking an active part in the program.

Other aviation education programs are currently being administered by the Boy Scouts and the National Aeronautics Association.

Know America's Planes CESSNA T-50



Newest model of the Cessna Aircraft Company of Wichita, Kansas, is the T-50, a twin-motored, five-place transport. It is powered with two Jacobs engines of 225 h.p. each and has a cruising range of 750 to 1000 miles. The T-50 features a continuous cantilever wing of spruce construction and a fuselage welded from chrome molybdenum steel tubing, both covered with fabric.

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15,000 GIRLS ALREADY WORKING ON AIRCRAFT ASSEMBLY LINES

Aircraft Industry Continues Full Scale Research Program

Engineers and Technicians Working at Top Speed To Produce "Terrible Surprises" for Foe NEW YORK, March 00.—(ANF)—In airplane plants, in the laboratories of the U. S. Army and in the workrooms of the National Committee of Aeronautics, trained researchers are now toiling over problems destined to insure air supremacy of the United States.

The "terrible surprises" which Colonel John H. Jouett, President of the Aeronautical Chamber of Commerce, recently promised America's enemies represent the products of research—past and present.

Model Planes To Win Junior Naval Ratings

WASHINGTON, March 15 (ANF)—Production of 500,000 scale models of allied and enemy warplanes, now under way, will enable the American armed forces and the public to recognize our own from hostile aircraft.

Sponsored by the Navy Department, the models are being built by the youth of the country under the supervision of the U. S. Office of Education.

Plans and specifications are being furnished the Education Office by the Navy Department. The Education Office then gives plans, the materials, etc., to the local and state education departments which are rallying the youth in their areas to perform the actual construction.

Reports to Washington indicate that the boys and girls of junior high and high school age are working enthusiastically on the project. The completed models will be made available, after the needs of the armed forces are filled, to civilian organizations through local superintendents of schools.

Ten thousand models of each of 50 aircraft types will be built. Work is under way on the first 20 models, including the American-built Brewster Buffalo, Douglas Devastator, Vought-Sikorsky-Kingfisher, Consolidated Catalina, Douglas Dauntless, Grumman Wildcat, (Navy types); and the Bell Airacobra, Curtiss Tomahawk, Douglas Havoc, Boeing Flying Fortress, and Northrop A-17, (Army types).

Two British planes which will be modeled by American youths are the Spitfire and the Wellington, while enemy aircraft due for shelling include the German Messerschmitt 109 and the Heinkel III, and the Japanese Sento Ki-90-L, the Baku Geki Ki and the Mitsubishi 96.

All models will be built to a precise scale of 1 to 72 inches. They are to be of solid construction and must pass a rigid inspection before they will be accepted by the Navy. Aircraftman ratings will be awarded to the boys and girls in conformance with the quality of their work.

Let's Go! U.S.A.—Keep 'em Flying!

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NIPPLE-NECK DISCOVERED

The world's largest user of baby nursing bottle nipples is the Wright Aeronautical Corp., builders of Whirlwind and Cyclone airplane engines. The nipples are used for slipping over small openings to prevent foreign objects from falling into engines during manufacturing stages.

Let's Go! U.S.A.—Keep 'em Flying!

This Silver Case Has Gold Lining

BATAVIA—A tiny pictorial map on a souvenir cigarette case guided 17 American airmen flying several United States flying boats on their escape from the Philippines to the Netherlands Indies.

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U.S. Aircraft Proves Worth In Far East

WASHINGTON, March 00.—Both Army and Navy aircraft are being publicly commended for recent performances in combat duty in the Far Eastern theatre of war.

The Navy planes are the Douglas Dauntless, a two-place, low wing dive bomber, the Douglas Devastator; a one-place torpedo plane; the Grumman Wildcat, a single-place fighter with mid-wing construction; and the Vought-Sikorsky Kingfisher, a two-place observation and scouting plane which can be drafted for attack work.

Congratulations on the performances of these American planes were promptly sent to their respective builders by both Secretary Knox and Rear Admiral John H. Towers, Chief of the Navy Bureau of Aeronautics.

Douglas Aircraft Company also received congratulatory messages from Lieutenant-General George H. Brett, Deputy Supreme Commander of the Allied Forces of the Southwest Pacific, and Robert A. Lovett, Assistant Secretary of War for Air, for the magnificent work of its A-24 dive bomber off the Coast of Bali.

A modified form of the Dauntless, the Douglas A-24 is related by the War Department as the best dive bomber in the world. Like others of its type, it is designed to perform exactly as the main planes; to dive straight at its target before releasing its load of bombs.

Unlike the high altitude level bombers which release their destructive load considerably ahead of the target, the dive bomber pilots aim themselves actually at the target. Starting from a high altitude, they come down twisting and turning so that enemy gunners, who may be blazing away at them, never get a clean shot.

At the last minute they straighten their craft out in a sudden and lethal thrust. Down they drop until, the target looming dead ahead, they discharge the bomb load.

Then, and not until then, do they zoom up in a sharp pull-out and scoot for safety. Guns in the tail open up for a final stab at the enemy as they sweep by.

Dive bomber pilots do not dive earthward at full-out power in lunging at their target. Instead, they bring the plane down as slowly as possible, because at high speed and high altitude, the air resistance which can be set up in such dives—they have clipped off as much as 800 feet per second—they have only a split second or two in which to sight accurately on the objective or to correct the course of their plane should they be off by a degree or two.

What the ideal dive bomber requires is a relatively slow diving speed and a powerful rate of climb for escaping enemy fire after the target has been attacked.

For the purpose of limiting the speed of the ship during dives several forms of braking flaps have been utilized. Some were similar to the flaps let down from the trailing edge of the wings of commercial transport planes. But at times these devices had a tendency to create air disturbances which caused the tail to wobble sufficiently to destroy the bomber's aim. To overcome this condition perforated flaps were devised and there are other types of flap development about which the military heads do not care to go into detail.

In addition to the Douglas A-24, numerous other styles of dive bombers are already in quantity production in the United States. The list includes the Brewster "Buccaneer"; the Curtiss-Wright "Helldiver"; the Northrop A-17; the Grumman "Avenger"; the Vought-Sikorsky SG2U; and the Vultee "Vengeance."

Let's Go! U.S.A.—Keep 'em Flying!

New Oxygen Tank Will Save Pilots

Many and varied are the contributions American manufacturers of aircraft accessories are making to the cause of national defense, according to the Aviation News Committee.

An example is the development of a new shatter-proof oxygen tank, designed to protect the lives of pilots and crews of warplanes operating at high altitudes.

Oxygen, absolutely necessary to airmen flying at the tremendous heights made possible by newer American airplanes and engines, is carried under extremely high pressure in small steel cylinders connected with face masks. In the past, these tanks often exploded when struck by a bullet, hurling jagged bits of metal through the cabin. These steel fragments frequently wrought more damage than bullets.

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Many More Thousands To Be Added As Nimble Fingers and Patience Prove Worth

A.M. RELEASE MARCH 16

These Girls Mean Business!



Representatives of nearly 15,000 girls found by the Aviation News Committee of the Aeronautical Chamber of Commerce to be working in aircraft production work are Catherine Rush of Des Moines, Iowa, and Bertha Shelton of Hoston, Missouri, shown above riveting and drilling on the sub-assembly of a Vega Ventura bomber. In order to be on the job promptly, both girls have to get up at 4:30 in the morning.

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Republic Employes Contribute Plane

More and more aircraft companies are climbing aboard the "gift plane" bandwagon, and Republic Aviation Corp. is the latest recruit to join this patriotic movement.

Designating their contribution as "Lucky Seven," because it is the seventh plane of the current series on the P-47 Thunderbolt contract, the plane, when completed, will be presented to the Army Air Corps.

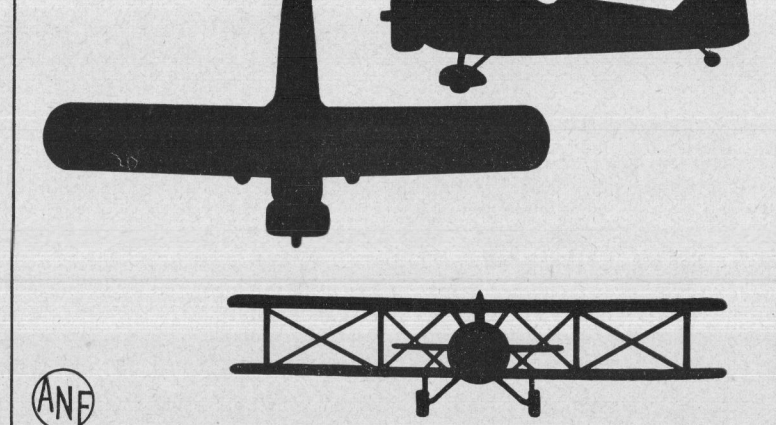
"Lucky Seven" is the prime example of the cooperation that can be attained between the aircraft employes and employers. Men and women in the company are donating their time by working a specified number of hours, usually five, without pay while the company itself is supplying the materials free of charge.

Several of Republic's sub-contractors are also contributing to the project. On behalf of their employes, they are donating the cost of the particular sub-assembly part which they produce.

Identified with bright green tags, the various parts that constitute the plane are now speeding along the assembly line as everyone in the plant is bending every effort into getting the plane into service as quickly as possible.

RELEASE MARCH 16

Know the Enemy's Planes JAPANESE "96" DIVE BOMBER



The sixth in a series of enemy aircraft silhouettes prepared by the Aviation News Committee is the Japanese "96" dive bomber, which is being used extensively in the Far East by both the Japanese Army and Navy. A blunt-nosed biplane with inter-wing bracing, it is a conventional type with straight wing and rounded top. Equally at home at a land airport or on an aircraft carrier, this dive bomber has a fixed landing gear with wheel fairings, an arresting gear, and possibly a floating gear.

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Pearl Harbor Widows Carry On Fight Against Japs

By Aviation News Features

Nearly 15,000 women are currently employed in plane production work, a survey conducted by the Aviation News Committee of the Aeronautical Chamber of Commerce revealed. It is expected that this number will be increased considerably each succeeding week, the report continues.

Although no actual figures are immediately available, it becomes increasingly apparent that of the 2,000,000 women which the War Production Board estimates will be working in American War Industries by the end of the year, a substantial percentage of this total will be in the aircraft field.

After several months of experimentation, aircraft industries are agreed that the women of America have proved in no uncertain way that they are able to take a responsible part in the production of warplanes for America's fighting forces. Many companies are already hiring women for actual assembly-line production.

Two major factors which will help women to take over more and more important jobs as the months of 1942 roll on are their deft fingers and unlimited patience. The fulfillment of this year's 60,000 plane quota will be aided considerably by their encouraging but none the less feminine presence.

One aircraft plant reported that 1750 women in its factory are now using drill presses, punch presses, riveters and other mechanical devices for plane production.

One of the most efficient groups of women yet employed is a group of Pearl Harbor widows recently hired by a West Coast plant. The attitude of these women is summarized in the statement of one:

"My husband would have wanted me to do whatever I could do, and at the same time to work for our son. If I can qualify as an aircraft worker, and with my hands and my mind help to build planes that will assure victory for America, I will, in a measure, be carrying on my husband's work."

Basically, that's the way all women aircraft workers feel about their jobs and the comments of their employers pay high tribute to the quality and quantity of work they are able to do.

Despite the numbers of women now going into production work, the aircraft companies indicate the women are not being employed to displace anyone. They are being brought in to supplement work of male employes and to perform work from which men have been taken by selective service.

While many manufacturers would like to employ even more women to speed up production, state laws in some cases have slowed down this expansion program. Although the women are employed on the same pay scale and the same hourly basis as men, state laws in some cases prohibit their working in odd shifts.

Report after report in the survey showed that employers are highly pleased with the technical skill and ability of women who have worked on aircraft production lines.

Many women are employed directly because they have acquired necessary skills in the past and others are being taken from technical training schools, where the educational records for women are giving strong rivalry to those of potential male aircraft employes.

Let's Go! U.S.A.—Keep 'em Flying!

PLANE FACTS: Aircraft Motors Employ Old Numbers

The Wright Aeronautical Corporation, makers of the famous Whirlwind and Cyclone engines for aircraft, has found a novel means of raising an old telephone directory. In the firm's Paterson, N. J., foundries, pages from the discarded books are placed over the openings in molds to keep dirt out. When the molten metal is poured into the mold, the intense heat burns the thin paper away instantly and without residue, leaving the casting free from foreign matter.

Let's Go! U.S.A.—Keep 'em Flying!

The Glenn L. Martin Company of Baltimore, builders of the deadly "Baltimore" and "Maryland" medium bombers, is approaching the final stages of its all-out airplane production program. The plants have expanded and important production rates have been reached on two of the three major bomber types the company will produce for the Army, Navy and the British during 1942.