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.

All stories and photographs released by AVIATION NEWS FEATURES have been approved by the U.S. Army Air Forces or, when appplicable, by the U.S. Navy. The Office of Censorship has said this procedure meets with its approval.

Aviation News Features

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March 16, 1942

AERONAUTICAL CHAMBER OF COMMERCE **Aviation News Committee**

NEW YORK: 38 Rockefeller Plaza Circle 7-2140

WASHINGTON:

LOS ANGELES:

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7046 Hollywood Blvd. Hillside 7211 HOWARD MINGOS LEONARD K. SCHWARTZ Secretary

American Children To

By Education Program

WASHINGTON, March 00.-

(ANF)-A realization of the air-

plane's significance in the world

of tomorrow has set in motion a

Aware that the post-war period

will find aviation occupying a po-sition of supreme importance in

both freight and transportation

fields, government and other lead-

ers are putting the movement into

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

Federal Civilian Training Program

which resulted in the training of

Initial move in Mr. Hinckley's

"air conditioning" plan has been

the formation of an Advisory Com-

mittee on Aviation Education. Dr.

is Chairman of this board.

flying age education.

latter connection.

students.

Ben Wood of Columbia University

The committee is now contacting

educators all over the country in

an effort to introduce aviation in-

to every possible aspect of pre-

and similar subjects will be stand-

ardized. Efforts are also being

made to introduce aviation angles

into related subjects, such as phys-

ics, geography and mathematics.

Support of text book writers and

publishers is being sought in this

Aviation studies will be intro-

duced into courses for teachers this

summer so that next fall, when

school opens, they will be able to

pass on the knowledge to their

The U.S. Office of Education

and the Civil Aeronautics Admin-

istration are represented on the

Wood Committee. Both are taking

Other aviation education pro-

grams are currently being admin-

istered by the Boy Scouts and the

National Aeronautics Association.

an active part in the program.

Model building, aerodynamics

75,000 pilots.

years ago inaugurated the

full swing on a dozen fronts.

nationwide movement to "air con-

dition" America's youth.

Aeronca Aircraft Corp., W. J. Mitchell—Bell Aircraft Corp., Fred R. Neely-Bendix Aviation Corp., Herbert Sharlock—Boeing Aircraft Co., Harold Mansfield, James Murray—Brewster Aeronautical Corp., Ronald S. Gall—Consolidated Aircraft Corp., H. E. Weihmiller, E. N. Gott—Curtiss-Wright Corp., H. E. Lawrence, Mark E. Nevils—Douglas Aircraft Co., Inc., A. M. Rochlen, Frank Fleming-Fairchild Engine & Airplane Corp., John Stuart-Lakeland School of Aeronautics, Stanley A. Hedberg-Lockheed Aircraft Corp., Leonard K. Schwartz, Richard Southgate—The Glenn L. Martin Co., Avery McBee—North American Aviation, Inc., Ronald L. Burla, Alexander T. Burton—Northrop Aircraft, Inc., T. C. Coleman, Carl Apponyi—Piper Aircraft Corp., William D. Strohmeier—Platt-Forbes, Inc., William A. Forbes—Republic Aviation Corp., William L. Wilson—Ryan Aeronautical
Co., Earl Prudden—Solar Aircraft Corp., E. T. Price—Sperry Gyroscope
Co., Inc., Harris B. Hull—United Aircraft Corp., Lauren D. Lyman, Norman
V. Clements—Vultee Aircraft, Inc., T. C. Sullivan, Palmer A. Hewlett—
Aeronautical Chamber of Commerce, Howard Mingos.

AEROQUIZ

Shape of Wing Be "Air-Conditioned" 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. Its effect is to lower the center of gravity of the aircraft.

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, i.e., the longitudinal axis is held vertical.

O.-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 cab-

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.

England announced losses of 3981 planes between September, 1939, and December, 1941. Losses by Germany during the same period were 6440 aircraft and Italy

Let's Go! U.S.A.—Keep 'em Flying!

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 coun-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 sub-

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 Embry Riddle School of Aeronautics at Miami,

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 announce ment by Charles I. Stanton, Deputy Administrator of Civil Aeronautics and Reed M. Chambers of Defense Supplies Corporation.







Released by the Aviation News Committee, Aeronautical Chamber of Commerce of America

15,000 GIRLS ALREADY WORKING ON AIRCRAFT ASSEMBLY

Aircraft Industry Continues

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

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

Despite the great emphasis cur-

rently being placed on mass pro-

duction, the industry's experiment-

al departments are carrying on at

full speed. Engineers, researchers

and technicians who think in

terms of planes of two or ten

years hence are busier than ever.

The airplane of the future is their

responsibility. Before any new and

more useful-or more deadly-air-

plane can begin rolling off the

assembly line, thousands of hours

of designing and production engi-

neering must be invested in labori-

There is little romance in the re-

searcher's life. Little or nothing

is heard of his efforts until a new

and improved type of warplane

zooms into the skies. His work is

confined to cold facts, figures and

logarithms. Although visualizing

the desires for greater speeds,

heavier armaments and longer

ranges, his designs must conform

to the practical demands of the

His work is nevertheless of su-

preme importance. It was just

such research which produced the

modern American heavy, long

range bomber, best in the world.

It was the research staff of the

N.A.C.A. which developed the lam-

inar flow wing. One of aviation's

greatest single contributions, this

most important development in-

creased the plane's speed by de-

creasing its drag. Then there was

the turbo-supercharger, the inven-

tion which permits planes to op-

erate at increasingly high altitudes.

Adapted to military use, the su-

percharger enables American pi-

Problems confronting the re-

search men today are numerous.

Some concern themselves with

flutter and vibration problems. A

good many are busy with the development of high lift devices:

things like improved flaps, bound-

ary layer controls and slots. While

sure to appear on the newer

on motors. Engine power for mil-

itary craft has increased roughly

from 1000 horsepower to 2000

horsepower within the short space

of ten years. Plans now call for

engine types will be developed along the lines of rocket propul-

sion. From a research standpoint,

this type is in its infancy. The de-

velopment, briefly, utilizes the en-

ergy contained in the engine's ex-

haust. This exhaust is harnessed

in such a manner that it can be

ejected at extremely high velocity,

thus setting up a surging forward

Research for the reduction of

gross weight is now travelling in

two directions. One way is seek-

ing out a more efficient use of

materials. It is being accom-

plished by a trial and error meth-

od. Materials which seem to con-

tribute nothing to strength and

which combine functions of other

materials are being rapidly elim-

weight is the utilization of mate-

rials which are lighter but have

the same strength. Aluminum,

steel, magnesium and wood, the

later often combined with plastics.

are the structural materials gen-

erally used. Work is now going on

for the development of stronger

and better alloys and combinations. New materials, such as be-

ryllium, are also being investigat-

but new planes cannot be built in

a day. On paper, certain combina-

tions of materials offer great

promises. It is up to the research-

Let's Go! U.S.A.—Keep 'em Flying!

BATAVIA—A tiny pictorial map

on a souvenir cigaret case guided

17 American airmen flying several

United States flying boats on their

escape from the Philippines to the

None of them ever had flown the

route which passes over a vast area

of countless islands, and only the

bare outlines of the main islands

of Sumatra, Borneo, Java, Celebes

and New Guinea appeared on the

treasured silver case the pilot of

the leading plane had picked up on

land positions had been considered

essential to navigation through the

Veteran flyers of the Indies ad-

mitted they were amazed by the

A knowledge of the smaller is-

a previous visit to the Indies.

Has Gold Lining

ers to find the right ones.

This Silver Case

Netherlands Indies.

maze of the Indies.

Results are still pretty far away

The other method to reduce

thrust.

It is more than likely that new

the 3000 horsepower goal.

Other researchers are working

lots to get on top of the enemy.

production line.

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 ous and routine experiment. 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.

struction.

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.

50 aircraft types will be built. Work is under way on the first 20 models, including the Americanbuilt 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

cise 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. Aircraftsman ratings will be awarded to the boys and girls in conformance with the quality of

Let's Go! U.S.A.—Keep 'em Flying!

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.

Full Scale Research Program Engineers and Technicians Working at Top Speed

To Produce "Terrible Surprises" for Foe

supremacy of the United States.

of research—past and present.

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

Ten thousand models of each of

Two British planes which will be these all appear on almost every by American youths are modern plane, improved forms are the Spitfire and the Wellington, while enemy aircraft due for shellacking include the German Messerschmitt 109 and the Heinkel III, and the Japanese Sento Ki-00-1, the Baku Geki Ki and the

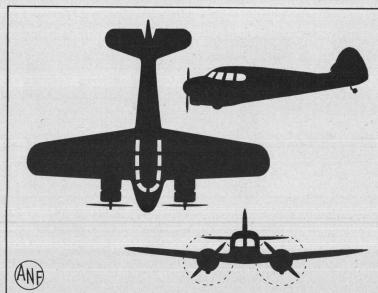
Mitsubishi 96. All models will be built to a pre-

NIPPLE-NECK DISCOVERED

RELEASE MARCH 16

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 cantillever wing of spruce construction and a fuselage welded from chrome molybdenum steel tubing, both covered with tabric. This construction lends itself to easy maintenance and repair, as well as to rapid, economical construction. An extremely versatile aircraft, the T-50 can be used as a military airplane, a trainer, an ambulance, a personnel transport or a photographic airplane. It is also available on floats or skis. Employed by the U.S. Army as an advanced trainer, the T-50 is also known as the AT-8.

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BLVD., LOS ANGELES, FOR THIS FREE SERVICE.)

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 Doug-las 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 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 the War Department as the best dive bomber in the world. Like others of its type, it is designed to perform exactly as the name implies: 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 the terrific speeds which can be set up in such dives—they have clipped 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

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 con-

tributions American manufacturers of aircraft accessories are making to the cause of national defense according to the Aviation News

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. Walter H. Kidde & Co., New York, which makes oxygen units, recently announced development of a completely shatter-proof cylinder made of tough, less brittle steel which would not burst even when riddled by .50 caliber armorpiercing bullets. The bullets merely punctured the container, permitting the oxygen to escape without

Many More Thousands To Be Added As

These Girls Mean Business!

Nimble Fingers and Patience Prove Worth



Representatives of nearly 15,000 girls found by the Aviation News Committee of the Aeronautical Chamber of Commerce to be working in aircraft productive work are Catherine Rush of Des Moines, Iowa, and Bertha Shelton of Haston, 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.

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

Commercial Transport Joins Army Air Corps A giant four-motored troop

transport, capable of carrying at least 42 fully armed and equipped men across the ocean, represents commercial aviation's latest contribution to this country's all-out

The huge plane, built by Douglas and called the "C-54," is the natural outgrowth of the company's earlier four-engined experimental transport, the DC-4, which was built five years ago as a joint project of the major U.S. commercial airlines. Lessons learned in test-flying

the pioneer ship were incorporated into the design of this new ship and workmen were assigned to the task of building a super luxury commercial airliner. The outbreak of war caused a halt in this program but the U.S. Army Air Corps, after making specific military changes, took over its production reins.

Compared with its prototype, the DC-4, which was designed to carry a gross load of 52,000 pounds more than 2500 miles at a rate of 265 miles per hour, the new C-54, Army Air Corps officials say, will carry a greater load, higher, faster and farther. But that's all they'll say.

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. 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

"My husband would have want ed mee tooddowwarat Icaantoo serve 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.

many manufacturers While 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

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 using pund old telephone directories. In the firm's Paterson, N. J., foundries, pages from these 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

Let's Go! U.S.A.—Keep 'em Flying!

The Glenn L. Martin Company of Baltimore, builders of the dead-"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.

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 land ing gear with wheel flarings, an arresting gear, and possibly a floating

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