

P.M. RELEASE OCTOBER 1

Advanced production methods are rocketing American aircraft engine output to record figures, according to the Aviation News Committee of the Aeronautical Chamber of Commerce. This photograph shows 1700-horsepower Cyclones moving along a Wright Aeronautical Corp. assembly line. Every few minutes another engine rolls off the assembly line, which is divided into 20 stations, with workers posted at each station performing only one set of assembly operations on each passing engine. Formerly a four-man crew of highly-skilled craftsmen assembled an engine, requiring eight hours for the job.

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AERONAUTICAL CHAMBER OF COMMERCE **Aviation News Committee**

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PLANE FACTS:

for the automobile.

steel building.

Army Bomber

vs. Your Car!

There are 11,500 parts in the

nose and center sections of a me-

dium bomber-such as the Martin

B-26 — compared with only 2500

parts for the entire body of an

average automobile of the four-

Let's Go! U.S. A. Keep 'em Flying!

Army has developed flare bombs

of more than 7,000,000,000 candle-

Let's Go! U.S.A. Keep 'em Flying!

More rivets are required in the

production of a single Republic

P-47 pursuit plane than were used

square foot Republic factory. The

airplane rivets, of course, are far

Let's Go! U.S.A. Keep 'em Flying! The Civil Aeronautics Adminis

tration now rates civilian pilots ac-

cording to the type, class and

horsepower of the aircraft they are

Free courses in glider flying

were recently sponsored by the

Tennessee Bureau of Aeronautics.

competent to fly.

Let's Go! U. S. A. Keep 'em Flying!

than those used in the

in the building of the new 500,000-

For night photography the U.S.

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—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,

Brothers Head Aerial Defenses of New York

NEW YORK, Oct. 00.—(ANF)-The aerial defense of metropolitan New York and command of the huge fleets of Army and Navy warplanes upon which rests the safety of the great city from air attack, repose, by an odd turn of fate, in the hands of two brothers —one a naval commander and the other a brigadier general of the

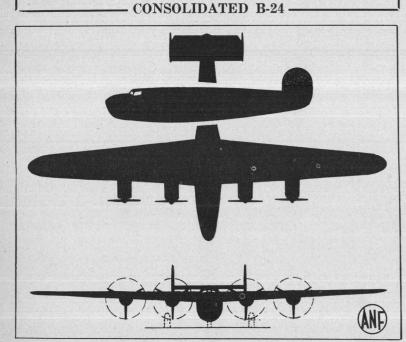
United States Army. The naval man, commandant of Floyd Bennett Field, is Commander Edward O. McDonald, in charge of aerial activities for the Third Naval District, which includes New York, Connecticut and northern New Jersey. Brigadier General John C. McDonald, as head of the Army's First Interceptor Group, commands the military airplane fleet at the Army's Mitchel Field, which is charged with protecting territory as far west as the Dakotas and south to North Carolina and Tennessee.

Let's Go! U.S.A.—Keep 'em Flying!

The U. S. War Department, already the world's largest carrier of air freight, is now testing two new cargo airplanes, the Douglas C-47 and C-53. Powered by Pratt & Whitney engines, the new ships can also be used as troop carriers, with space for 28 soldiers in addition to the crew.

RELEASE OCTOBER 1

Know America's Planes



Tremendous range and heavy striking power, combined with maximum speeds of better than 300 miles per hour, characterize the fourengine bombers perfected by the American aircraft industry for U.S. defense . . . characteristics which are now making themselves felt in the war in Europe. Most recently developed of our long-range bombers is the Consolidated B-24, the export version of which, known as the Liberator, is in service in Britain. The Pratt & Whitney powered B-24 can be identified by the famed Consolidated "thin" wing, the tricycle landing

gear and the twin-tail structure.
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Released by the Aviation News Committee, Aeronautical Chamber of Commerce of America

Warplane Engine Production Soars to a Record High

4,5000,000; Still Increasing

PICTURE IN COLS. 1 AND 2

P.M. RELEASE OCTOBER 1

NEW YORK, Oct. 1.—(ANF)— Marking the virtual completion of their plant expansion programs, American aircraft engine manufacturers drove their production to a new all-time high during the month of August, turning out new warplane motors representing a combined total of nearly 4,500,000 horsepower!

This record-breaking achievement was reported here today by the Aviation News Committee of the Aeronautical Chamber of Commerce, which pointed out that horsepower production has been tripled in 12 months.

One year ago the production of the three principal engine producers—Pratt & Whitney, Wright Aeronautical and the Allison Division of General Motors—was progressing at the rate of about 1.500 .-000 horsepower per month. In the fall of 1939, at the outbreak of the war, production totaled but 500,000 horsepower monthly.

NECK AND NECK

Their huge plants ablaze with lights seven nights a week, Pratt & Whitney and Wright are at the moment running about neck and neck in the matter of monthly production of radial air-cooled engines as translated into horse-

Wright produced 1,780,000 horsepower at its Paterson, N. J., plants during August, and Pratt & Whitney's plant at East Hartford, Conn., added 1,700,000 more horsepower to the existing supply of aviation Both firms are well ahead of the

production schedules laid down by the Government, Wright having reached in August an output not scheduled for attainment until November.

Allison is reported to have turned out approximately 927,500 horsepower during August.

NEW METHODS

Largely responsible for increased production are complete programs of re-tooling with automatic and semi-automatic machinery, permitting the utilization of semiskilled labor where once intricate hand work had to be done by specialists long skilled in their individual types of precision work.

Wright's output included endoor sedan type. The two sections of the bomber weigh 4500 gines ranging from 400 to more pounds, compared to 976 pounds than 2000 horsepower-from Whirlwinds for training planes and M-3 medium tanks, on up through the Cyclone 9's, Cyclone 14's and Cyclone 18's for dive bombers, fighters and medium and heavy longrange bombers.

Pratt & Whitney expects to increase its horsepower output to 2,000,000 a month by December, and should attain maximum production of something like 2,800,000 sometime during 1942 after the remainder of its already completed plant expansion is tooled up and put to production.

LOOKING AHEAD

By mid-1943, War and Navy Department heads predict engines totaling 12,500,000 horsepower will be produced each month.

A part of this increased production will originate in the plants of automobile manufacturers, some of whom have arranged to build aircraft engines under licensing agreements signed by the aircraft engine firms, the latter having spent many months educating automotive engineers and craftsmen in the methods used to produce the far more powerful and complex

Let's Go! U.S.A.-Keep 'em Flying!

Amazing Growth of Aircraft Firm Told

LOS ANGELES, Oct. 00 .-(ANF)—The remarkable growth of the American aircraft industry under the stimulus of national defense is typified by Northrop Aircraft, Inc., which has just celebrated the second anniversary of groundbreaking for its plant at Hawthorne, near Los Angeles.

In September, 1939, the company had no orders and only a handful of employes. Today it holds orders totaling

\$75,000,000. As of Sept. 15, 1941, 2800 persons were employed on two 10-hour shifts and the monthly payroll was more than half a million dollars. Plant buildings, which include a modern wind tunnel, cover an area of 555,000 square

Let's Go! U.S.A.—Keep 'em Flying! JOBS ARE WAITING

As part of the nationwide movement to absorb man-power released from the armed services. Consolidated Aircraft Corp. of San Diego, Calif., has offered jobs to qualified men who are leaving the Army and Navy after receiving special exemptions from military

Let's Go! U.S.A.—Keep 'em Flying!

New Aerial Battleship Unveiled at Baltimore; Here Are Some Details

August Horsepower Hits Big Martin Flying Boat A.M. RELEASE OCTOBER 1 Has Wingspread of

> EDITORS: Two new giants of the sky—the Martin XPB2M-1 flying boat and the Boeing B-17E longrange bomber-are very much in the news these days. In this and adjoining column are stories on these aerial monsters we feel sure will be of interest to your readers.

back non-stop or of patrolling vast

blustery of ocean gales.

With the tests completed-Martin officials announced the new giant had passed them with flying colors—installation of the flying boat's four huge engines got under

200-FOOT WINGS

The Aviation News Committee reported today that the XPB2M-1. which is able to base anywhere and be ready to hurl tons of bombs on enemy ships or bases, has a wing spread of 200 feet and a hull 117 feet long. The normal gross weight is 140,000 pounds. Power is furnished by four 2000-horsepower Wright Duplex Cyclone engines.

which is comparable in size to the than the largest clippers.

cers have been equally reticent about how the interior of the ship body or fuselage in the world, has

The Navy maintains a discreet silence about the armament for this air battleship, but an observer ing number of huge globes, which could be naught else but powerdriven gun turrets, indicating the craft can take good care of itself against attackers.

IN FINAL STAGE of when the craft will fly, but it

is now in its final stage of construction, with installation work the

ADJOINING COLUMN > chief unfinished increment.

It was scarcely more than a year ago that the keel of the air battleship was laid with Navy sponsorship, albeit the original design was submitted in 1937. Thus, in a year's time the craft has assumed its huge shape and shortly will go into final assembly

Combat Command is

Army's striking force

AIR FORCE

2nd

AIR FORCE

Bigger and Better

COMBAT COMMAND

FORCE AIR FORCE

INTERCEPTOR, BOMBARDMENT

AND SUPPORT COMMANDS

Fortress Produced

Boeing's New B-17E Has

Greater Firepower

American aircraft industry's lead-

ership in perfecting and producing

huge new warplanes of advanced

design is being demonstrated anew

In the process of manufacture

by the Boeing Aircraft Co. is the

newest version of the famed Fly-

ing Fortress four-engine, long-

range bombers-the B-17E which

according to the Aviation News

Committee of the Aeronautical

Chamber of Commerce, is bigger

and more deadly than any of its

tion series, the B-17E was turned

over to the Army Air Corps for

testing last month. The War De-

partment describes it as approxi-

mately five feet longer and of a

greater gross weight than earlier

Fortresses, one model of which-

the B-17C (known in England as

"Fortress I")—recently introduced

extreme high-altitude bombing op-

Armament of the new Wright

powered Fortress includes power

turrets both on the top and bottom

of the fuselage and a "stinger"

turret in the tail, providing resist-

ance from attack from any direc-

tion. Enlarged horizontal and ver-

tical tail surfaces provide for the

To prepare for the Flying Fort-

ress production program, Boeing

has enlarged its Seattle floor area

from 800,000 to 2,400,000 square

feet in the last 12 months and

has erected a 380,000-square foot

plant at Wichita, Kan, which is

being further enlarged to 1.700.000

be produced, under a tri-company

"production pool," by the Douglas

Aircraft Co. at Long Beach, Calif.,

and by the Vega Airplane Co. at

In addition, the B-17E will also

square feet.

Burbank, Calif.

ship's enlarged size and weight.

erations in the European war.

Not a lone experimental model

the first of a nuge produc-

predecessors.

SEATTLE, Oct. 00.—(ANF)—The

3rd AIR

200 Feet

BALTIMORE, Oct. 00.—(ANF)— The curtain has been drawn aside on the largest flying boat in the world-the U.S. Navy's XPB2M-1, a long-range patrol bomber capable of flying across the Atlantic and

areas of the sea at high speed!

Dramatically, the Glenn L. Martin Co. revealed this colossus of the air, writhing in the hands of tormentors who loaded the hull and wings unmercifully in proof tests . . . tests that proved before the giant ship ever took to the air. that it can stand the heaviest loads and the buffeting of the most

These are the only figures released thus far on the flying boat, Army's great Douglas B-19 land bomber and a full third larger

HAS TWO DECKS

Martin officials and Navy offiis arranged, but the giant hull, clearly larger than any airplane many compartments in its two

That the ship is intended for

high-altitude operation is admitted by Martin officials, who point out she is able to keep far above the effective range of anti-aircraft fire. Obviously, one of the great tactical advantages of this air giant will be as a patrol ship because of the tremendous range and because it will be able to stay aloft. and on duty for many hours longer than other naval aircraft.

No announcement has been made

SEE STORY IN

(EDITORS: IF YOU ARE NOT RECEIVING AVIATION NEWS FEATURES' MATS OR GLOSSY PRINTS, WRITE TO AVIATION NEWS COMMITTEE, 7046 HOLLYWOOD BLVD., LOS ANGELES, FOR THIS FREE SERVICE.) Aviation's Who's Who

BURDETTE S. WRIGHT Burdette S. Wright, one of the operations officer at Kelly Field, San Antonio, Tex. In 1928 he was transferred from Texas to Washington, D. C., as chief of the Air

best-known figures in American airplane production circles, has two titles of which he is justifiably proud-one is that of major in the U.S. Army, the other is the tag of E. E., a degree he received from Purdue University in his native Indiana.

HOW OUR REORGANIZED AIR FORCES FUNCTION

CHIEF OF AIR FORCES

HEADQUARTERS

ARMORED

FORCE

SUPPORT

COMMAND

Born at New Albany in 1893, he was graduated as an electrical engineer from Purdue with the class of 1915 and got



his first job with the Iowa Railway & Light Company at Cedar when World War I came along and he joined a Coast Artillery unit. Not long afterward he was commissioned a first lieutenant. Aerial warfare fascinated the

young engineer Burdette S. Wright so he left his artillery outfit, was transferred to aerial observation in 1918, attend-

ing the army school at Tours, Shortly before the end of hostilities he was assigned to the Fifth Army Corps observation group as operations officer. Later he was commissioned a captain.

Named aide to then Assistant Chief Brigadier General William (Billy) Mitchell while on duty in the office of the Chief of the Air Corps in 1919, Mr. Wright developed many of the airway facilities which are in common use today, including weather maps, radio sta-

tions, airway markings, etc. From 1925 to 1927, Mr. Wright was director of flying training and

Fuselage Provide

Added Speed

the wings and fuselage must be

strengthened to carry the added

gear has always represented some-

thing of a fussy job for the plane

makers. The designers must bear

in mind the necessity for attain-

ing maximum simplicity and ef-

ficiency at a minimum of weight,

the factor of easy and certain op-

eration and quick accessibility for

maintenance, and must design a

gear that will be sufficiently rug-

ged to absorb all the hard knocks

Creation of retractable landing

Rapids. He was just settled in the new

and following the merger of this firm with the Curtiss-Wright Corp. he became vice president and general manager of the airplane division of Curtiss, the post he now holds. His principal hobby is wood-working and cabinet making, which he indulges in after business hours in a completely equipped workshop which he maintains at his home in a Buffalo suburb

and civilian life.

Corps information service.

Upon his resignation from the

army he was commissioned a ma-

jor. The walls of his office at the

Buffalo plant of the Curtiss-Wright

Corp. are crowded with auto-

graphed photographs of highly

placed individuals in Army, Navy

His military service terminated,

he became associated with the

Curtiss Aeroplane & Motor Co.,

STREAMLINED U.S. AIR FORCES

Air Council is advisory group comprising Chief of Air Forces, Assistant Secretary of War for Air, Chief of Combat Command and

Army Chief of War Plans

AIR CORPS

Air Force trains pilots and mechanics and procures air-planes, etc. Other duties: personnel, intelligence, fer-rying command, buildings and grounds.

TESTED IN ARMY MANEUVERS

Let's Go! U.S.A.-Keep 'em Flying!

AEROQUIZ

8 Pursuit Types for Air Forces

Q-How many types of pursuit planes are in service with or be ing produced for the U.S. Air

A-Eight. Newest ships include the Bell P-39, Curtiss P-40, Lockheed P-38. North American P-51 and Republic P-43 and P-47. Older types are the Curtiss P-36 and Republic P-35.

Q-What is the value of military airplanes the American aircraft industry has contracted to build for the United States, Great Britain and other democracies?

A-More than five-and-a-half billion dollars worth.

Q-What country first armed an airplane with a machine gun? A-The United States. In 1909 at College Park, Md., a machine gun was carried on a Wright biplane and was fired at a ground

Let's Go! U.S.A.—Keep 'em Flying!

Light Liaison Plane Delivered to Army

Indicative of the value of American-built light planes to national defense was the recent delivery of YO-57 liaison planes to the U.S.

Produced by Taylorcraft Aviation Corp., manufacturers of light planes for commercial and training purposes, the new YO-57 is a two-place high wing monoplane powered by a Continental fourcylinder 65 horsepower motor. During Army maneuvers last summer, several types of light planes demonstrated their ability in cour-

Let's Go! U.S.A.-Keep 'em Flying!

New Bomber and Support Groups **Swing into Action**

Finishing Touches Being Put on Program of Reorganization

A.M. RELEASE OCTOBER 1 WASHINGTON, Oct. 1.—(ANF) -Reorganization of the nation's Army Air Forces, "streamlined" to the tempo of modern aerial warfare, is nearing completion, the Aviation News Committee learned

Giving impetus to the reorganization were three recent announcements by the U.S. War Department

1-Activation of four Bomber Commands, the "backbone of the

2-Formation of five Air Support Commands, four of which assist the four U.S. Armies in carrying out their missions, with the fifth working with the new Armored Forces.

3—Creation of two Air Task Forces which worked out the role of combat aviation in a major battle involving mechanized and mixed ground forces during the vast September maneuvers in the

South. GETTING MODERN PLANES These maneuvers brought into actual operation what Robert A. Lovett, assistant secretary of war for air, described as the "finest air force in the world-from the point

of view of quality of aircraft." That quality was built into the participating planes—light (attack) bombers, dive bombers, two types of medium bombers and three types of pursuit ships-by designers, technicians and aircraftsmen

IT'S A MISTAKE . . to allude to the entire aviation component of the U. S. Army as the "Air Corps." What you mean, nowadays, is the "Army Air Forces." Under the current reorganization, the Air Corps is one of the main branches of the Forces, the other being

Combat Command.

of the American aircraft industry. the assembly lines of which, spread across the face of the nation, are now engaged in the biggest production program in the world's

history. To date, the Air Forces reorganization program, heralded by Secretary of War Henry L. Stimson as giving the Air Forces greater autonomy, stacks up as follows:

CHIEF AND COUNCIL At the head is the Chief of the Air Forces, Maj. Gen. H. H. Arnold, advised by the Air Council comprising Robert Lovett, Assistant Secretary of War for Air; Lieut. Gen. Delos Emmons, commanding the Combat Commands; Brig. Gen. L. T. Gerow, Army Chief of War Plans, and Gen. Arnold himself.

Below Gen. Arnold stands Air Forces Headquarters, commanded by Brig. Len. Carl Spaatz as Chief of Air Staff.

From headquarters stems the Air Corps, commanded by Maj Gen. George H. Brett, in charge of pilot training and procurement of planes and other materiel: and the four Air Forces, with headquarters on Long Island, N. Y., and at Spokane, Wash.; Tampa, Fla., and Riverside, Calif.

TWO MAIN BRANCHES Under the reorganization the Combat Command comprises the striking force, with the Air Corps carrying out, in addition to training and procurement, the vitally necessary administrative and supply functions, such as research, intelligence, buildings and grounds and the new Ferrying Command.

Each Air Force consists of three najor elements, the Interceptor Command, Bombardment Command and Support Command. The Interceptor Command is a tactical unit ready with swift pur-

suit planes to drive off invading enemy bomber and fighter planes. The newly activated Bomber Commands have the mission of destroying hostile installations and

attacking enemy personnel. The Support Commands were formed to provide effective and close support for the Army's ground units. This gives the four Armies and the Armored Force dive bombing, attack, bombing, observation, photographic and paratroops for use in land operations.

a note to Editors ...

SKYPOWER-The U. S. Army's aviation organization has been thoroughly "streamlined" to match the tempo of aerial warfare. This week we bring you complete details of this reorganization, together with a comprehensive chart the functions of our Army Air Forces. (See Cols. 6, 7, 8.)

HORSEPOWER-Production of engines for American warplanes has risen to record-breaking proportions. For the story of what has been accomplished, and how, see Col. 3. (Picture in Cols. 1 and 2.)

Warplanes Borrow an Idea from the Birds Aeronautical research has made many notable contributions to the creation of faster, more efficient and safer aircraft. One of the most notable has been the perfection of the retractable landing gear. This article, seventeenth of a series on research, tells how this was accomplished and what it has meant. Wheels Which Fold into

With but one or two exceptions,

all of the world's combat planes

are equipped with retractable land-

ing gears. One of the exceptions

is the German Ju.87-B. the Stuka

dive bomber. Germany still has

many of these planes in service, it

is said, though they are being re-

placed by the Ju. 88, which tucks

its wheels into the rear of the en-

Retractable Gear Has Replaced Famous

'Tin Pants'

NEW YORK, Oct. 00 .- (ANF)-When Roger Williams and the late Capt. L. A. Yancey in 1929 flew their Bellanca "Pathfinder" monoplane from Old Orchard, Maine, to Rome, the ship carried an innovation in the tin "pants" which covered the protruding landing gear—a pioneering effort to stream-

line the little craft. Tin pants for landing gear were highly regarded a decade ago as designers sought to build more and more speed into their planes. But today the retractable landing has changed all that, for a plane can tuck its wheels up as a bird does its feet during flight, and thus become a more nearly perfect aerodynamic unit than one with fixed

landing gear projecting below. CONSTANT IMPROVEMENT Technicians, designers, research experts and manufacturers work continuously on the problem of retractable landing gear, according to the Aviation News Committee. And each year has seen improvements in the technique of tucking away a plane's wheels to decrease

The result has been worth the

effort, for experts declare that

were it not for the retractable

gear no plane could reach a speed

in excess of 300 miles per hour.

And today, even the heaviest

American-built bombers better

drag and step up speed.

The retractable gear must be tough, certain of operation and fast-acting. The U.S. Army Air Force demands that wheels retract in 20 seconds and drop and lock into position in 15 seconds, while the Civil Aeronautics Authority insists the landing gear of transport planes retract in 60 seconds and lower in half that time.

gine nacelles.

ON SOME TRAINERS The Army installs such gear only in planes with speeds greater than 175 miles per hour, except in the case of training planes used to demonstrate such mechanisms to student pilots. This retracting mechanism, of course, adds considerable weight

SPACE IS VITAL Given the gross weight of the ship and its projected landing speed, the designer must estimate the braking capacity required and consider the size of the wheel needed to house the brake and tire needed. Also, he has to figure on propeller clearance—the tips of

which military usage entails.

by at least nine inches. Then there is the question of finding space into which the gear may be lifted-in the thick section of a wing or into the outboard engine nacelles of multiengined planes-and there must be a power unit designed to ac-

the prop must clear the ground

tuate the whole apparatus. Much of the research now beto a plane. For each pound added to the weight of the gear, about 15 pounds must be added to the ing carried out along these lines is in the hands of army experts gross weight of the ship because at Wright Field, Dayton, O.