\$3,506,495,447 \$4,305,217,856 \$798,722,409 Backlog

Vol. 3, No. 5

July 15, 1941

AERONAUTICAL CHAMBER OF COMMERCE

Aviation News Committee WASHINGTON:

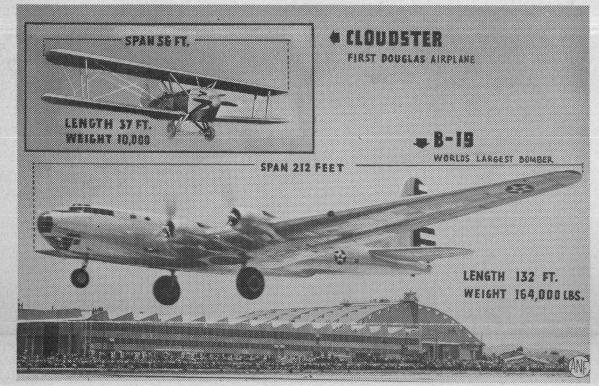
LOS ANGELES: NEW YORK: 30 Rockefeller Plaza A. M. ROCHLEN HOWARD MINGOS LAUREN D. LYMAN

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, John M. Rogers - Fairchild Engine & Airplane Corp., John Stuart - 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., J. Lyle Manion — Platt-Forbes, Inc., William A. Forbes — Ryan Aeronautical Co., William Wagner—Sperry Gyroscope Co., Inc., J. A. Fitz, Harris B. Hull—United Aircraft Corp., Lauren D. Lyman - Vultee Aircraft, Inc., T. C. Sullivan, Frank J. Walsh — Aeronautical Chamber of Commerce, Howard Mingos.

NOTE TO EDITORS: We want every publication to get an even break on articles and photographs appearing in Aviation News Features. Unless otherwise indicated, all material is released on and after the 1st or 15th of each month. Strict observance of these release dates will mean that everyone gets that even break.

RELEASE JULY 15

1920 — THEN AND NOW — 1941



Barely two decades stand between these two airplanes. One was a sensation of 1920. The other is the American aircraft industry's newest, most spectacular contribution to the nation's defense. The big ship (shown here taking off on its maiden flight) is the Douglas B-19, world's largest bomber, now undergoing Air Corps tests at March Field, Calif. The little fellow is the Cloudster, first of a long line of Douglas transport planes. Some idea of the difference in the size of the Cloudster and the "Hemisphere Guardian" can be gained from the comparative figures, compiled by the Aeronautical Chamber of Commerce.

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NEW ENGINE PLANT

All 16 of the major league

baseball teams could play eight

simultaneous games, watched by 240,000 spectators—30,000 for

each game-in Wright Aero-

nautical Corp.'s new airplane

engine plant near Cincinnati

O. And there would be enough

room left for a college football

game! The new factory covers

2,120,000 square feet of floor

Drabness Marks

New Camouflage

Modernized camouflage designed

to make an airplane invisible from

the ground is a development of World War II. Long-range night

bombers are given an overall coat

of dull black or finished with drab

tops and sides with dull black bot-

toms. Fighter aircraft which oper-

ate during the day have the under-

surfaces of wings and fuselage painted a light-blue color. Here

Manufacture of aircraft repre-

sents the largest single use of

aluminum, taking something over

50 per cent of the total defense

use, according to the Office of

Three thousand one hundred ten

pounds of basic aluminum stock

go into each Republic Lancer in-

terceptor airplane—the equivalent

of 6000 aluminum saucepans of

World War I is lacking.

Production Management.

the standard kitchen type.

spectacular multi-coloring of

Use of Magnesium in Engine Parts Will Decrease Weight of Aircraft

Technicians Tame the Temperamental Traits of Lightweight Metal for Motor Construction

Twelfth of a series illustrating the manner in which research and experimentation are providing new methods and materials to speed production and improve quality of military aircraft, this article discusses magnesium, the new lightweight metal used in airplane engines.

Magnesium, the lightweight metal which has "grown up" with the aviation industry, is playing an increasingly important part in lessening the weight of the engines which power Uncle Sam's huge fleet of warplanes.

space.

PLANE FACTS:

The development of magnesium during nearly two decades of constant research and experimentation is but one of the many examples of the foresight of the American aircraft industry in its preparation for today's task of arming America and Great Britain in the air, according to the Aviation News Committee of the Aeronautical Chamber of Commerce.

Magnesium is one-third lighter than aluminum, but it is strong enough in alloy form for engine parts. It is one of the most temperamental of all metals to handle because of its tendency to burst into flame when it comes into contact with air and because of its affinity for mixing with gases and other metals.

PROBLEM SOLVED After 17 years of experimentation, technicians at Wright Aeronautical Corp. have solved these problems and are now prepared to turn out approximately 20,000 pounds of magnesium castings a day. The world's largest magnesium foundry and the first of its kind to be devoted solely to aircraft engine castings is located at

Fair Lawn, N. J. Nearly 150 different engine parts will come out of the Fair Lawn plant, including such items as nose and rear covers, super-charger covers, intake manifolds, oil pumps and breathers for oil systems.

CONVEYOR SYSTEMS A line production method has been set up whereby raw materials-ingots of virgin metal and sand for molds and cores-enter one end of the building. They flow their separate ways on conveyor systems, meeting when the metal comes from the furnace and is poured into waiting molds of

Pouring the metal is a touchy job and no good substitute has yet been found for the old-style hand-operated ladles

U.S. Has Another **New Dive Bomber Brewster XSB2A-1 Uses Power Turret**

Another new American divebomber, rated as vastly superior to the Nazi Stuka in range, speed and bomb-carrying capacity, has been translated from the engineer's draft board to actual flights tests, the Aviation News Committee reported today.

It is the XSB2A-1, to be placed in production in the near future the Brewster Aeronautical Corp., as the third of a series of new dive-bombers which American manufacturers are known to have under way. The other two are Vultee's Vengeance and Curtiss-Wright's new SB2C-1. All three, experts point out, outfly and outfight the Stukas which have played such an important part in aerial hostilities in Europe. The same is true of other American divebombers, including Douglas SBD-3, Vought-Sikorsky V-156, Republic Guardsman.

While the U.S. Navy has announced no performance statistics of the Brewster XSB2A-1, it is understood that it has a range comparable to that of a medium comber, plus a far greater bombload capacity than is carried by foreign dive-bombers.

A noteworthy feature of the XSB2A-1 is a power turret for the gunner in the rear cockpit-believed to be the first to be installed in a dive-bomber. Possessing leak-proof gas tanks and heavy armor and fire power, it boasts another innovation in divebomber construction—a mid-wing as compared with the more conventional low-wing design. This permits the storing of a substantion bomb-load internally, thus doing away with wind resistance from externally-carried bombs.

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

FLOATS FOR WARPLANES Emergency demands for pontoons and wing-tip floats for naval observation and fighting airplanes have resulted in a more than 1000 per cent increase in the number of employes at Edo Aircraft Corp. at College Point, L. I. Before its present expansion program, Edo had 70 workmen. Now it employs 830, to be increased to 1200 by early fall. Most of Edo's current work is being done for Curtiss-Wright and United Aircraft.



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

AEROQUIZ

Tube on Wing Measures Speed

Q—What is a Pitot tube?
A—A thin tube projecting from the leading edge of an airplane wing, used to measure air speeds. Q-What part of an airplane is designated as the empennage? A-Empennage (French) is the collective name for the entire tail group, or tail assembly, of an airplane, composed of the rudder, fin, elevator and horizontal stabilizer.

Q-What does the aircraft designation "SB2C-1" mean? A-"SB" stands for scout-bomber; means the second scoutbomber type produced by the Curtiss Airplane Division and "1" indicates the first of its model. In toto, the letters and numbers designate the new Curtiss Navy dive-

Let's Go! U.S.A.—Keep 'em Flying!

CAMOUFLAGE SCHOOL Using miniature models of buildings, engineers at the Army camouflage school at Fort Belvoir, Va., are studying the effects of various paints and designs in hiding such strategic objectives as factories and airports from the air.

Plane Industry's 'Man-Hours' and **New Orders Soar** Engrossed in aviation since he

Gains Also Reported in Personnel and Payrolls

P.M. RELEASE JULY 15 WASHINGTON, July 15.—(ANF) -The aircraft manufacturing industry in May established a new record of 45,588,286 "man-hours" worked in production of warplanes for defense of the United States and the democracies, and during the same period took on new orders totaling approximately fourfifths of a billion dollars.

These were the highlights of a report to the Aviation News Committee by Col. John H. Jouett, president of the Aeronautical Chamber of Commerce of America.

"Man-hours" worked in May exceeded those worked in April by 3,812,254, a 9.1 per cent increase and an impressive index to the industry's constantly increasing productive effort.

NEW ORDERS New orders sent the industry's backlog soaring on June 1 to a record high of \$4,305,217,856, Col. Jouett reported. On January 1, 1940, the backlog was only \$675,-

(Editors Note: All statistical data reported, including backlog figures, cover the plane, engine and propeller companies, and do not include the aeronautical contracts of the automobile industry, other than sub-contracts given automobile companies by aircraft manufacturers.)

Other expansion achievements of the aircraft industry in May, as of the Ryan S-T trainer series, reported by the Chamber head,

1. Number of employes increased 15,624 from 247,047 to 262,671, a 6.3 per cent increase. On January 1, employes numbered only

2. Weekly payrolls jumped \$681,-462 from \$9,022,125 to \$9,703,587, a 7.5 per cent increase. Payrolls on January 1, 1940, were \$2,821,932. MORE WORKERS

The plane companies accounted for the bulk of the increase in number of employes. Total plane company employment rose from 184,047 to 198,169, an increase of more than 14,000.

The plane and engine companies together were responsible for payroll increases of \$678,302, plane payrolls being boosted \$276,520 and engine payrolls \$401,782.

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

More Instruments

for U.S. Warplanes NEW YORK, July 00.—(ANF) -Under pressure of its huge war emergency commitments, the Sperry Gyroscope Co. has completed arrangements building a new plant with 1,350,000 square feet of floor space near Great Neck on northern Long Island, not far

dia Airport. Approximately 7000 men will be employed at the plant, following completion early in

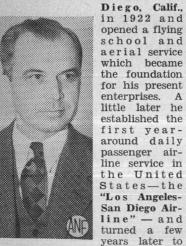
from New York City's La Guar-

Among the Sperry products are such delicately constructed instruments of "flight security" as the directional gyro, the gyro-horizon and the automatic pilot for airplanes. Sperry also builds searchlights, sound locators and directors for antiaircraft protection, and the gyro-compass and other marine instruments.

Aviation's Who's Who

was a boy, T. Claude Ryan, in the last few years, has kept step with the rapid expansion of the aircraft industry through the spectacular growth of his own aviation interests, the Ryan Aeronautical Co. and its subsidiary, the Ryan School of Aeronautics.

Enthused over the possibilities of aviation, young Ryan came to San



around daily passenger airline service in the United "Los Angeles-San Diego Airline" - and turned a few years later to manufacturing

planes for the air mail service. Mr. Ryan's first production model was the Ryan M-1 monoplane, followed by the Ryan Brougham series of cabin planes. Most famous of Ryan aircraft, of course, was the "Spirit of St. Louis" built to the specifications of Charles A. Lindbergh for the New York-Paris flight.

In 1934 came the introduction which pioneered the low-wing trainer field and was destined, in 1939, to become the first low-wing trainer to be used by the U. S. Army Air Corps for the primary training of flying cadets.

The increased production requirements of national defense purposes changed the Ryan organization from a small firm manufacturing high-performance training and sport planes for private owners to one of the nation's main sources of primary military training planes under mass production standardization methods.

A complete new factory building constructed on Lindbergh Field, although not yet two years old. has already undergone two extensive additions, bringing the total production area to some 240,000 square feet. Working on a \$15,000,-000 backlog of orders are approximately 1800 men.

Along with the rapid growth of Ryan's manufacturing activities has come an equally spectacular expansion of training facilities. Chosen as one of the first nine schools to give primary training to Air Corps flying cadets, the Ryan School in the summer of 1939 was assigned a contingent of 35 cadets for a 12-week primary training period with new classes arriving each five weeks-a total of 70 new cadets during the 12 weeks. At present the combined Rvan schools at San Diego and Hemet, the latter being established in record-breaking time last fall, receive 370 new cadets during each 10-week period.

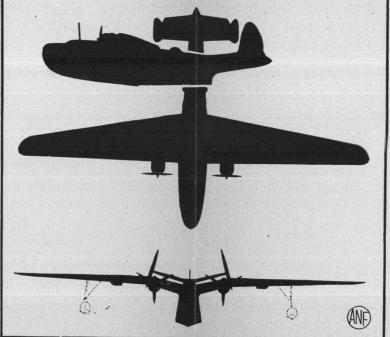
Let's Go! U.S.A.—Keep 'em Flying!

EYES FOR THE ARMY Latest observation airplane to go into production for the U.S. Army is the Curtiss O-52, a high-wing monoplane designed for scouting missions and to maintain liaison with infantry, artillery and other ground troops in combat team

Let's Go! U.S.A.—Keep 'em Flying!

RELEASE JULY 15

Know America's Planes MARTIN PBM-1



The long-range patrol bomber has been perfected by the American aircraft industry to meet the needs of the far-ranging U.S. Navy. Pictured here is one of the newest of these flying boats—the Martin PMB-1, which has an extremely long range and a heavy defensive armament. Note the gull wing design (which lifts the propellers well above the heavy spray kicked up during take-offs), the retracting wing floats and the sharp dihedral (upward slant) of the tail plane.

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ENTIRE NATION SHARES IN PLANE PROGRAM BENEFITS

A.M. RELEASE JULY 15

American Aircraft: Product of a Nation. ents R Minerals Miscellaneous Materials

Nationwide character of the U.S. aircraft industry is illustrated by this map, prepared by the Aviation News Committee, which shows the distribution throughout the 48 states of airplane, engine, propeller and parts manufacturing centers and materiel sources. All play their part in the production of warplanes for defense.

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Every State Does Its Bit

From Maine to California, from Washington to Florida, each of the 48 states contributes materials that make possible the production of modern warplanes. Materiel sources, state by state, follow:

paints, plastics, accessories, alu-

Aluminum, zinc, glass, paper, wire cable, plastics, bomb racks, instru-

ments, sheet metal parts, gun-

Cotton, talc, turpentine, tar, mica,

Clay, leather, fiber, insulation.

Zinc, lead, petroleum, leather.

Rubber tires, tools, accessory parts,

landing gear assemblies, sheet

Lumber, leather, silver, copper,

lead, tools, machine parts, alumi-

Aluminum, magnesium, steel, ma-

chine parts, glass, silk, leather,

Airplane cloth, electrical equip-

minum, magnesium.

sights, magnesium.

North Carolina

North Dakota

steel, aluminum

Pennsylvania

ment, instruments.

Turpentine, cotton, twine.

Wool, petroleum, parts.

Slate, talc, fabrics.

Cotton, copper, rayon, plastics.

Copper, silver, zinc, asphalt.

Silver, copper, lead, zinc, lumber.

tools, machine parts, springs, alu-

Glass, carbon black, steel, porce-

Paper, leather, electrical machin-

ery, die castings, steel tubing, ma-

Fabrics, chemicals, paper.

South Carolina

Silver, tungsten

Tennessee

Texas

Utah

Vermont

Virginia

Washington

West Virginia

lain, chemicals.

Wisconsin

chine parts.

Lead, gypsum, lumber.

Wyoming

aluminum.

Oregon

copper, lead, zinc, leather.

New Mexico

New York

Steel, silver, copper, lead, tin, graphite, bauxite, cotton, turpen-Iron, zinc, textiles, chemicals, tine, aluminum. Arizona

Silver, copper, molybdenum, vana-Arkansas

Bauxite, abrasives, petroleum, cotton, antimony. California

Aluminum, magnesium, tools, parts, radio equipment, instruments, castings, machine parts, fish oil, mercury, petroleum, borax, lumber.

Colorado Lead, copper, wool, silver. Connecticut

Machine guns, aluminum forgings, manganese, bronze bars, machine

Steel products, explosives, paper, artificial leather, plastics. Florida

Cotton, peanut oil, sponges, turpentine

Georgia Iron, bauxite, cotton, talc, turpentine, rosin, manganese.

Lead, silver, zinc, copper, wool, lumber Illinois

Iron, steel, copper, instruments, insulators, steel forgings, rubber parts, cable, felt. Indiana

Ignition equipment, tools, bomb switch units, magnesium, aluminum. Iowa

Lead, zinc, starch, oil, steel parts. Kansas Flax, zinc, casein, lampblack, Kentucky

Asphalt, alcohol, porcelains. Louisiana Sulphur, acids, fiber, paraffin, lumber.

Maine Slate, lumber, muslin, leather, woolen fabrics. Maryland

Radio equipment, parts. Massachusetts Machine parts, tools, leather, electrical goods, silk, rayon.

Michigan Steel, copper, gypsum, brass, engine parts, paints, aluminum extrusions, sheet metal parts. Minnesota

Iron, paper, linseed oil, electrical

parts, radiators, steel. Mississippi Cotton, leather, turpentine, rosin, pitch.

Missouri Gunmount assemblies, radio parts, lead, silver, zinc, fiber, leather.

Montana Leather, copper, silver, wool, manganese, instrument jewels. Nebraska Leather, fiber, casein, starch.

Nevada Silver, copper, wool, lead, zinc, mercury, manganese, tungsten. New Hampshire Mica, leather, fabrics, paper.

Speed Test Uses Peas on a Plane

Imagine pasting peas on an airplane!

Experts of Britain's RAF did just that recently, to determine how much the "drag" created by protruding rivet heads retarded speed. Half sections of dried peas were painstakingly pasted over the thousands of flush-driven rivets on the metal skin of a military ship. The difference in the ship's speed after this operation was completed was presumed to indicate the amount of air resistance created by the protruding rivet heads.

Flush-riveting is found in virtually all the high-speed military airplanes being produced in the United States.

Materials Come from All States, **Survey Discloses Aircraft Industry Spends** \$70,000,000 Monthly

for Supplies

A.M. RELEASE JULY 15 The "all-American" character of the nation's aircraft industry. which is spending in the neigh borhood of \$70,000,000 monthly for materials and supplies, was revealed today by an Aeronautical Chamber of Commerce survey which showed this purchasing extends to every state in the Union. Illustrating the complexity of

the warplanes now in quantity production for the United States and Great Britain, airplane and engine materials listed by the Aeronautical Chamber ranged from fish oil to silver, from sponges to leather, from aluminum to twine.

According to the Chamber's Aviation News Committee the aircraft industry itself spreads over 18 states from Coast to Coast, its airplane, engine and propeller manufacturers disbursing nearly \$10,000,000 weekly in payrolls to more than a quarter of a million

TOOLS AND PARTS Manufacture of aircraft instruments and parts constitutes another important factor in the economic structure of many states. And the machine tool industry, its plants located in a large number of communities in the East and Middle West, has been able to expand rapidly due to huge orders for high-speed equipment needed for the fabrication of planes and power plants.

An added stimulus to the nation's economy is the nationwide sub-contracting program undertaken by the aircraft industry to speed production.

Into a long-range bomber manufactured on the Pacific Coast, for example, will go valves and bolts manufactured in Pennsylvania, instruments made in New York, oxygen supply connections from New Jersey, landing gear assemblies from Colorado, engine mounts from California, conduit fittings from Massuchusetts, aluminum extrusions from Michigan, and so on.

NATIONAL PATTERN A pattern of American aircraft materiel sources shows producers of military planes drawing heavily on the Atlantic seaboard for armor and armament, parts, instruments, aluminum sheet, airplane

fabric and many other items. The South contributes cotton. turpentine, tar, mica, bauxite, paraffin, rosin, lumber, wool, petroleum products.

The Middle West furnishes such important materials as steel conper, brass, rubber and aluminum, and at the same time manufactures thousands of tools, electrical connections, and various subassemblies.

The Far West is the chief source of such minerals as silver, lead, zinc, copper and the jewels used in delicate aeronautical instruments, plus wool and leather, while a flourishing business in instruments, parts and tools has grown up around the aircraft producing centers on the Pacific Coast.

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

BALLOONS FOR U. S. Procurement of 3000 barrage balloons and accessories and establishment of a barrage-balloon training center are planned by the U. S. Army.

ANIMALS, SNAKES & SUCH Air Corps Studies Names for Planes

EDITORS: If you are using "Know America's Planes" we direct your particular attention to the following feature:

WASHINGTON, July 00.—(ANF)—The U.S. Army Air Corps is considering simplifying the designations of American fighting airplanes so the public can "Know America's Planes" better, the Aeronautical Chamber of Commerce reported to Aviation News Features today. Such a move, it was pointed out, would give impetus to the identi-

fication campaign being carried on by the aircraft manufacturing industry through the "Know America's Planes" series of silhouettes issued by Aviation News Features and published in (NAME OF PAPER).

The plan contemplates formation of a committee to give colorful, descriptive names to the air services' many types of military planes, names that would stamp themselves on the public's mind much more indelibly than the current letter-and-number designations, such as P-40 (Curtiss pursuit), B-26 (Martin medium bomber), O-49 (Vultee obser-

vation), etc. As a starter to stimulate suggestions, the following formula has been offered as a sort of "trial balloon," it being admitted that some of the names might sound too ponderous or too repulsive:

TRAINING-Small, harmless birds: Fledgling, etc. TRANSPORT-Large animals: Elephants, etc. PURSUIT-Poisonous snakes: Copperhead, etc. OBSERVATION—Sharp-eyed birds: Hawk, etc. BOMBERS-Large, heavy, powerful animals, ugly when aroused: Behemoth, Rhino, etc.

ENGINES-Some engines already having been named for stinging insects and high winds (Pratt & Whitney Wasp, Wright Cyclone, etc.), it is suggested more names of similar nature be added.

"Such names as Spitfire and Airacobra (renowned British and American pursuit planes) not only furnish a better description of airplanes and their purpose than designation by letters and numbers, but mean more to the public," an Air Corps spokesman told Aviation News

"It might mean more to the American public to know that a squadron of Copperheads was passing overhead than to hear it said: 'Those

are P-40's.'