

a note to Editors...

BOMBERS—Cooperation spells greater production. The U. S. aircraft industry today is cooperating to an unprecedented extent, pooling its resources for the swift production of long-range bombing planes. See the story and pictograph in Cols. 7 and 8.

ENGINES—Swiftly the output of power plants for American warplanes rises toward peak production. For details see Cols. 5 and 6.

PILOTS—Behind the controls of U. S.-built training planes, thousands of young Americans are being transformed into skilled combat pilots. What are the long-range programs of the Army and Navy? How are we aiding Britain in this vital phase of aerial warfare? See Col. 3.

Vol. 3, No. 4 July 1, 1941

AERONAUTICAL CHAMBER OF COMMERCE

Aviation News Committee

LOS ANGELES: 7046 Hollywood Blvd.
A. M. ROCHLEN
Chairman

WASHINGTON: Shereham Bldg.
HOWARD MINGOS
Secretary

NEW YORK: 30 Rockefeller Plaza
LAUREN D. LYMAN
Vice-Chairman

Bell Aircraft Corp., Fred R. Neely—Bendix Aviation Corp., Herbert Sharlock—Boeing Aircraft Co., Harold Mansfield, James Murray—Brewster Aeronautical Corp., Ronald S. Gell—Consolidated Aircraft Corp., H. E. Weismiller, 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.

U.S. Planes' Tricycle Gear Means Safer Landings at Higher Speeds

Third Wheel Found on Many American Types Wins Praise of Britain's Airmen

Another phase of American aeronautical research and its contributions to safer, faster, more powerful airplanes is the subject of the following article, seventh of a series. Discussed below is the development of the tricycle landing gear.

The problem of safer landings for the high-speed airplanes of modern warfare has been solved in the research and engineering departments of American aircraft factories.

The answer, according to the Aviation News Committee, lies in the tricycle landing gear, pioneered in this country and highly praised by British pilots who have found American-built warplanes thus equipped ideal for operations on and off the limited landing areas prescribed by the European war.

Tricycle landing gear, which provides a third wheel under the nose of the ship (thus eliminating the small tail wheel), is found on such famous American combat planes as the Bell Alacobra pursuit, the Consolidated B-24 bomber, the Douglas A-20, DB-7 and B-19 bombers, the Lockheed P-38 interceptor, and the North American B-25 and Martin B-26 bombers.

The engineering departments of several aircraft companies contributed long hours of research to development of the tricycle gear in its modern form. Some of the world's earliest airplanes utilized the three-wheel type of gear, but during the World War the trend swung to the two-wheel type, and it was not until such organizations as Douglas, Bell, Consolidated, Lockheed, North American and Martin began equipping their warplanes with a tricycle gear designed for modern ships that it returned to popularity.

Protracted studies were made with landing gear test vehicles which included weight, balance, tread and wheel-base dimensions similar to those proposed for the actual airplane. Many of these tests were run up as high as 70 miles per hour over all sorts of terrain, ranging from concrete runways to rough country sod.

In discussing the tricycle, as used on the Alacobra, F. P. Bassett, assistant production engineer of the Bell plant, said: "One of the outstanding advantages obtained by the use of the tricycle gear is that landing technique is greatly simplified for pilots of limited experience. All landings are much safer since it is not necessary to stall the plane. There is now very little excuse for overshooting the field since higher landing speeds are permissible, and it is impossible to nose over due to excessive brake application at any speed.

"When rolling, the plane does not 'porpoise' due to rough ground or excess speed. Ground looping is eliminated. Stability of the ship while rolling is not seriously affected, even if a tire should blow out or a brake become locked. Other obvious advantages are the added safety obtained in case of landings at night or in poor visibility."

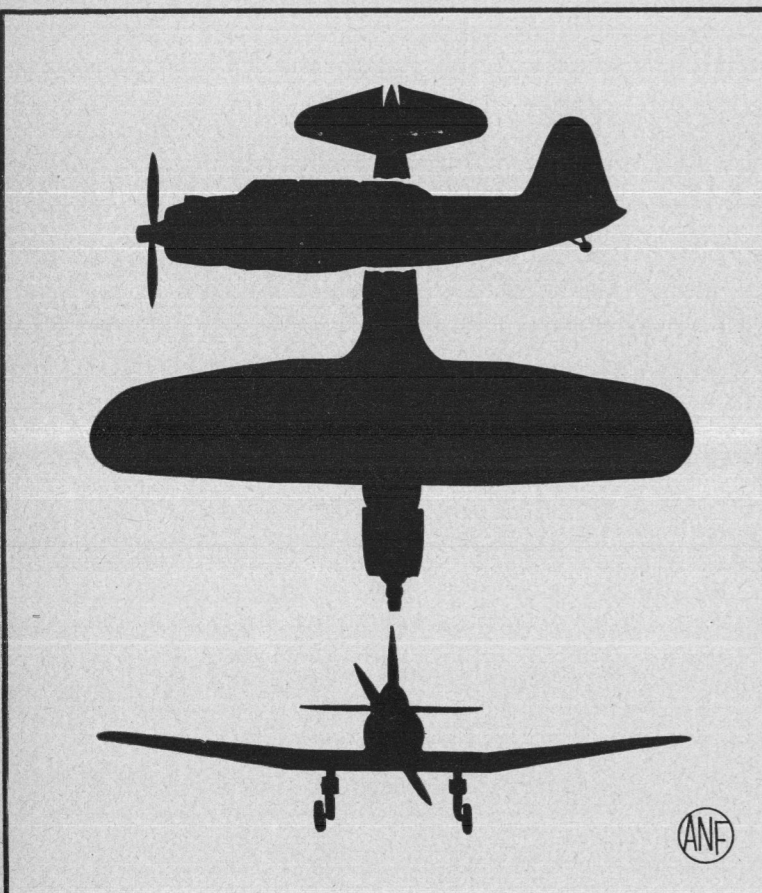
CUTS IN STACKS

A new mechanism known as the pantagraph router, recently perfected by engineers at the plant of the Bell Aircraft Corp., Buffalo, N. Y., permits rapid cutting of stacks of sheet aluminum into desired shapes—work which once had to be done in individual units. It has boosted production 400 per cent, shop executives declare.

RELEASE JULY 1

Know America's Planes

—VOUGHT-SIKORSKY V-156—



A dive bomber that is equally useful for scouting, long-range observation, attack and horizontal bombing, smoke-screen laying and photographic work—that's the Vought-Sikorsky V-156, which typifies the amazing diversity of American aircraft. Adaptable alike for land and sea operations, the V-156 is powered by a Pratt & Whitney radial engine and has a retractable landing gear, replaceable by twin pontoons. Points of recognition include the long cockpit housing and the hinged outer wing panels, which fold upwards to conserve storage space.

(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.)

Army, Navy Plan to Train 40,000 Pilots per Year

Fast U. S. Production of Training Ships Aids Giant Program

WASHINGTON, July 1.—(ANF)—Utilizing latest type planes being manufactured in record volume by the aircraft industry, the Army and Navy are turning out crack fighting pilots at a rate which will reach 40,000 a year within 16 months, Aviation News Features was informed by service headquarters today.

Facing the terrific task of schooling pilots to man the new 55,000-plane air forces (40,000 Army, 15,000 Navy), the Army Air Corps, in one short year, in emergency, has increased its pilots to 10,000, while the Navy, which had 3629 pilots on Jan. 1, 1941, will have 6000 by Jan. 1, 1942, with 5000 in training. The Army, as of today, has 12,000 flying cadets in training.

40,000 A YEAR!

By November, 1942, the Army will be producing pilots at an annual rate of 30,000 and the Navy at an annual rate of 10,000—40,000 flying officers a year in all.

More than a dozen aircraft manufacturers are building the planes which are making possible this, the greatest pilot training program in the history of this country, and possibly of the world. Some of the leading builders, and the types they manufacture, are listed by the Aeronautical Chamber of Commerce as follows:

Primary trainers: Fairchild PT-19, Ryan PT-21 and 22; Stearman PT-13B and PT-17 and 18 and NRS-3.

Basic trainers: Vultee BT-13A and BT-15.

Advanced trainers: North American AT-6A (called the Harvard by the British, to whom more than 1000 have been sent); North American SNJ-3 and Beech AT-7A and Cessna AT-8. The last two named are two-engine craft.

BIG INCREASE

At present the Army is turning out pilots at a rate of 12,000 a year. Until recently, this was the contemplated peak of the Air Corps training program expansion, but it was suddenly upped to 30,000 a year as the world emergency grew more grave.

The Army training, requiring 30 weeks, is carried on in 30 civilian contract schools (15 more are being added, a number having already been chosen) and 24 Army schools. The number of Army schools will be doubled. The Army training is divided into 10 weeks primary (in a civilian school), 10 weeks basic (secondary) in one of 7 Army schools, and 10 weeks advanced, in one of 11 Army schools.

NAVY IS BUSY

The Navy, after elimination work at 16 Naval Reserve bases each capable of handling 100 trainees a month, sends successful applicants to one of its three huge training centers at Pensacola and Jacksonville, Fla., and Corpus Christi, Tex. The Navy also maintains a station at Miami, Fla., for carrier-type training. The induction rate at the three big centers is 800 a month. The Navy will need 17,000 pilots in all for its 15,000-plane program.

In addition to its regular training program, the Army recently undertook training of 1000 British pilots a year in this country. Four thousand will be trained in the Army's civilian contract schools and 3000 in the Civil Aeronautics Administration's schools for U. S. civilian flyers. The first group of the Britishers already is in training.

The latest move by the Army to expedite production of pilots is the provision for training of enlisted men as pilots.

PLANE FACTS:

Machine Turns Wire to Rivets

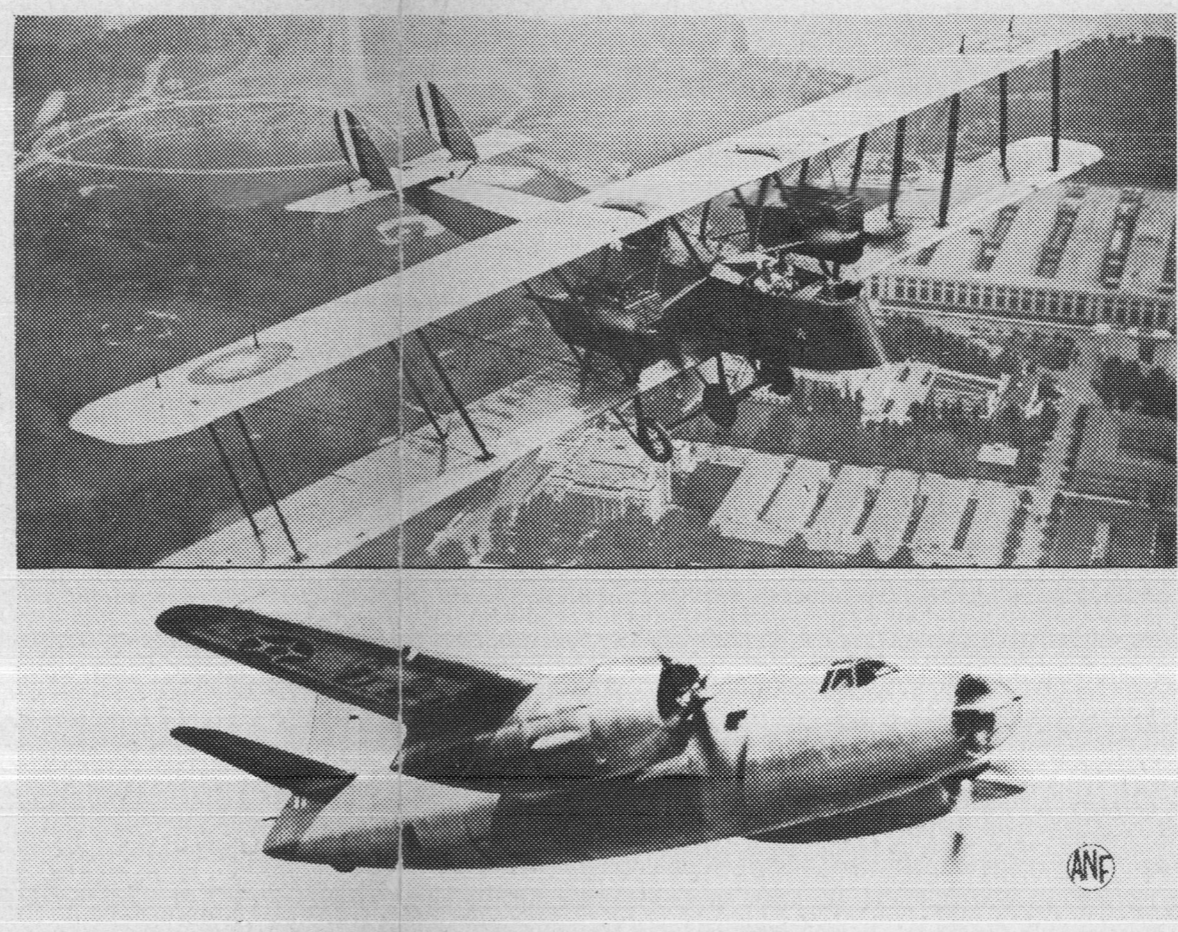
A Buffalo aircraft plant has developed a machine which swallows heavy aluminum wire from large spools and spouts out rivets like drops of water. Typical of the methods devised by the aircraft industry to speed production, the machine has reduced rivet rejections from 17 per cent to less than 1 per cent, and has increased strength of the rivets 20 per cent.

Reports from European battle zones declare that some Lockheed Hudsons—just one of the many types of military aircraft now being supplied to Great Britain by the American aircraft industry—have flown home safely despite more than 200 bullet holes in wings and fuselages.

American aeronautical engineers who examined a Nazi Messerschmitt 110 fighter shipped over from Great Britain to the Vultee factory concluded the German plane would have been no match for the latest U.S.-built pursuits.

Hydraulic presses capable of exerting pressures of more than ten million pounds are used to form sheet metal parts in American aircraft factories.

1918 — THEN AND NOW — 1941



Contrast the huge, cumbersome-looking biplane in the upper photograph with the sleek, streamlined monoplane in the lower picture. These photographs, from the Aeronautical Chamber of Commerce, typify the spectacular progress made by the American aircraft industry in 23 years. The plane at the top is the 1918 Martin MB-2, America's first twin-engine bomber, while the ship at the bottom is the Martin B-26, latest U. S. medium bomber, described by the Army Air Corps as "faster than most of the pursuit planes now fighting in Europe."

(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

GUY W. VAUGHAN

Guy W. Vaughan is frequently referred to by his business associates as "the man who entered aviation when the automotive industry became too tame." A native Long Islander—he was born at Bay Shore—he has been successively an automobile mechanic, a race driver, a designer of motor cars, a consulting engineer, plant superintendent and now head of the huge Curtiss-Wright Corp., mass producer of airplanes, engines and propellers.

Following his graduation from high school at New Rochelle, N. Y., young Vaughan became engrossed in the then rapidly expanding automotive business, working in shops and garages by day and studying engineering by night. One of his first jobs was with the Desberson Motor Co. and he then joined the Standard Automobile Co., which imported a racer to the United States, 18-year-old Mr. Vaughan was selected to drive it. He won the Gordon Bennett classic of that day and spent the next few years racing against such outstanding figures as Ralph De Palma, Barney Oldfield, Louis Chevrolet and the rest of the top-notchers.

Subsequently he began devoting his spare time to designing an automobile and in 1908 there was advertised the *Vaughan Runabout*—price \$4,600 P.O.B. somewhere. Later he became consulting engineer for the Olds motor firm at Lansing and then aided F. B. Stearns in developing the old Knight automobile engine.

World War I came along and Mr. Vaughan joined the Wright-Martin aeronautical firm which had resulted from the merger of the Wright interests and those of Glenn L. Martin. Mr. Vaughan was given the post of quality manager at the New Brunswick plant which was turning out the old Hispano-Suiza engines. Eventually he was elevated to the job of plant manager.

When the World War ended, aeronautical activities slumped. But so confident was Guy Vaughan of aviation's future that he urged Wright-Martin to set up a company specializing in aircraft engine development and production. The result was the establishment in 1919 of the Wright Aeronautical Corp., today one of the largest airplane manufacturers in the world.

He left the firm to spend several years with various automotive firms and returned in 1924 as factory manager. He had a prominent part in producing the now-famous Wright air-cooled airplane engine and was largely responsible for placing the plant on a quantity production basis. He was made vice president and general manager the next year.

When Wright Aero was consolidated with the Curtiss organization in 1929, Mr. Vaughan was named president of Wright, and in 1935 was elected president of the Curtiss-Wright Corp.

Engine Output Rockets; 1942 Peak to Bring 11,000,000 HP per Month

New Factories Swing into Action; Auto Makers to Build Power Plants under License

Present spectacular production of the world's finest higher-powered airplane engines will be capped soon with tremendous increases, brought about by new plant expansion, the Aviation News Committee reports.

From the already existing facilities of the three major producers there came about 3500 engines during May of an estimated 3,400,000 total horsepower. And by July, 1942, it is predicted by the Aeronautical Chamber of Commerce, this horsepower total will have skyrocketed to something like 11,000,000!

These all-time high production records are keeping pace with the rapid growth in construction of military airplanes. The output of the three largest engine firms—Pratt & Whitney, Wright Aeronautical and the Allison Division of General Motors—will shortly be augmented by the production of half a dozen motor car manufacturers building either Pratt & Whitney or Wright engines.

Big New Plant
Adding impetus to Wright's production program was the recent opening of the new 2,120,000-square-foot engine plant at Cincinnati, which, at full stride, will produce 1000 1700-hp. Cyclones per month.

Continental Motors of Muskegon, Mich., has begun production of the 400-hp. Wright Whirlwind motor for use in advanced army training planes.

Allison has been concentrating on a liquid-cooled motor of approximately 1300 horsepower for the U. S. Army. Recently Allison announced it had developed a new 24-cylinder streamlined engine of more than 2000 hp., which can be turned out with the same machinery now being used in the manufacture of the 1300-hp. version, now being used in such planes as the Lockheed P-38, North American's NA-73, Curtiss-Wright P-40 and P-46, and Bell Alacobra.

AUTO MAKERS AID
OPM Director William S. Knudsen announced recently that the Chevrolet division of General Motors will be added to the list of automobile manufacturers building the Pratt & Whitney engine.

Studebaker is completing preparations for building 600 Cyclone 1700-hp. motors per month at peak production next spring. Ford and the Buick division of General Motors are well along on their preparatory program looking to the building of 10,000, or possibly double that number, of Pratt & Whitney engines.

Over 10 Planes Roll Daily from One Plant

Furnishing an example of the nation's growing aircraft output, the Buffalo plant of the Curtiss-Wright Airplane Division is now producing "over 10 planes daily," Guy W. Vaughan, company president, informs the Aviation News Committee.

Included in this production are the advanced Curtiss P-40D pursuit types and Curtiss O-52 observation models for the U. S. Army Air Corps; also Curtiss Tomahawk fighters for the Royal Air Force. Basic combat trainers for the United States Navy are coming out of the company's St. Louis factory, and production of Curtiss SB2C-1 dive bombers will be started shortly at new plants at Buffalo, Columbus and St. Louis.

500 Big Bombers a Month Is Goal as U.S. Aircraft Makers Pool Resources

4-Engine Plane Output Will Be Speeded to Record High

See Pictograph, Bottom Cols. 7-8.

PM RELEASE JULY 1

LOS ANGELES, July 1.—(ANF)—Productive resources of the American aircraft industry are being pooled to a point unprecedented in the nation's history to provide the United States and Great Britain with a huge sky fleet of long-range, four-engine bombing airplanes.

The Aviation News Committee reported today that, on the basis of figures from authoritative government sources, the output of these big bombers—among the most potent of all aerial weapons—is expected to reach an eventual record high of 500 monthly.

IMPORTANT TYPE

Importance of the heavy bomber, a type developed in the United States for hemisphere defense needs, was emphasized recently by Col. John H. Jettett, president of the Aeronautical Chamber of Commerce, who pointed out that the big planes, produced in sufficient numbers, could successfully convoy shipping over the entire route from America to the embattled Britain.

Most recent development in the heavy bomber program was the announcement that three leading Pacific Coast airplane manufacturers—Boeing Aircraft Co. of Seattle, Douglas Aircraft Co. of Santa Monica and Vega Airplane Co. of Burbank—will embark upon a unique cooperative program for the production of the famed Flying Fortress.

As a result of an earlier cooperative move, Consolidated Aircraft Corp. of San Diego and the Douglas Co.—operating government-owned plants in the Middle West—will speed production of America's other four-engine bomber type, the Consolidated B-24.

TWO NEW PLANTS

These two \$22,000,000 plants, one located at Tulsa, Okla., the other at Fort Worth, Tex., are scheduled to be in operation by the end of 1941. The Tulsa plant will be operated by Douglas, the Fort Worth plant by Consolidated, each factory building the B-24 bombers from sub-assemblies produced by the automotive industry.

Output of these plants is expected to increase current production of the heavy bombers, being carried out by Consolidated at San Diego and Boeing at Seattle, to 200 planes per month.

UP TO 500

And when the pooled resources of Boeing, Douglas and Vega swing into action in 1942, this production figure is expected to rise to 500 planes monthly.

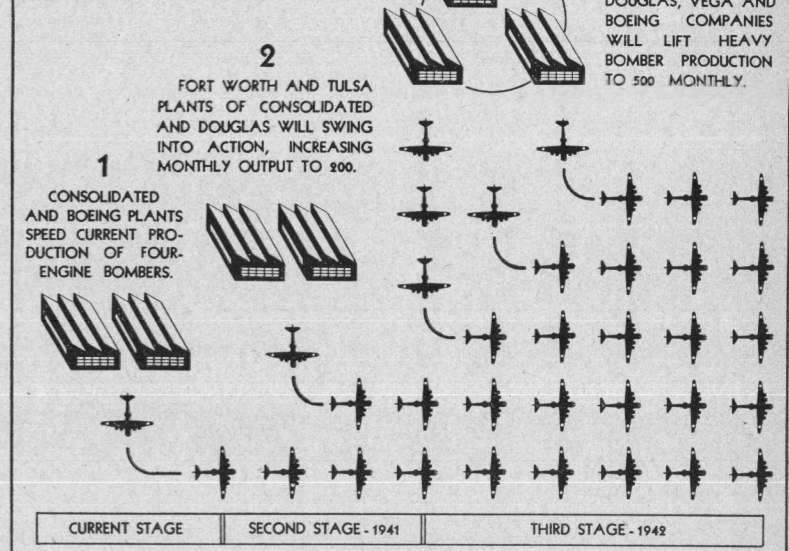
The Aviation News Committee stressed that these figures cover only the heavy bomber program and do not include another program for the production of medium bombers, under which fast bombers of the Martin B-26 and North American B-25 type will be produced by the Glenn L. Martin Co. and North American Aviation, Inc., at government plants at Omaha, Neb., and Kansas City, Mo., with automobile manufacturers supplying sub-assemblies.

Under the Boeing-Douglas-Vega cooperative program, each organization will turn out completely assembled B-17E Flying Fortresses, even to the extent of interchangeability of parts. Several other aircraft manufacturers will contribute to the program through sub-contracting.

P.M. RELEASE JULY 1

PLANT 'POOL' TO SPEED HEAVY BOMBER PROGRAM

HOW AIRCRAFT INDUSTRY UNITS WILL COOPERATE TO PRODUCE 500 LONG-RANGE BOMBERS A MONTH FOR DEMOCRACY'S DEFENSE



(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.)

BOMBER FACTS

A total of 248 different factories help build one of the big Flying Fortress bombing planes! One hundred ninety-three of these supply the thousands of standard items and small parts used in the long-range bombers. Forty-five others are subcontractors providing major parts and assemblies. Virtually every state contributes some sort of material to the finished bomber, ranging from paper to lead, from linen to porcelain, aluminum to steel, lumber to leather.

tribute to the program through sub-contracting.

The Boeing Co. will immediately begin construction of a huge addition to the new Plant No. 2 of its Stearman Division at Wichita, Kans., to augment the program. Douglas will utilize its new "black-out" plant at Long Beach, Calif., for Flying Fortress production, while the Vega Co., an affiliate of the Lockheed Aircraft Corp., will produce the bombers at its newly-completed factory at Burbank, Calif.

Informed quarters point out that the long-range bomber program is an important step toward the standardization of types urgently needed by both the United States and Great Britain as it directs the production facilities of a large section of the aircraft industry to two models.

The program, however, is not expected to result in the "freezing" of design or to limit production by the cooperating companies of other types of warplanes.

These ships include the Consolidated PBV and PBVY naval patrol bombers, the Douglas A-20 and DB-7 light attack bombers, B-19 Hemisphere Guardian bomber and SED dive bombers, and the Lockheed P-38 interceptor pursuits and Hudson reconnaissance bombers.

Another recent cooperative move on the part of the aircraft industry was announcement that Vultee Aircraft, Inc., and Northrop Aircraft, Inc., were producing tool designs, etc., for production of the Vultee Vengeance dive bomber for the British.

QUOTE and END QUOTE

"Due to the great distance involved in the western hemisphere, long-range bombers are the key to its aerial defense. The U. S. is producing the best airplanes of this type in the world today and they are rolling off the production lines in ever-increasing numbers."
—Maj. Gen. H. H. Arnold, deputy chief of staff for air.

"A notable example of the far-sightedness of American aircraft design is the case of the heavy, multiple-engine bomber. One type of these bombers was designed by us as early as 1934 and has been in service for five years. To this day, it is still probably the finest heavy bomber in the air."
—Secretary of War Henry L. Stimson.

"We think of the automobile industry as the industrial miracle of the 20th Century. But consider that we are faced with the task of building up the aircraft industry in three short years from the same small beginnings to a more gigantic output than the auto industry attained in 30 years."
—John Eggers, Office of Production Management.