

a note to Editors . . .

POWER! Aircraft engine production reached a new high of 2,600 units in February, assuring power for the "wings" of American national defense. (See Cols. 6, 7 and 8.)

PAYROLLS! Communities in all sections of the nation find that aircraft industry payrolls contribute from 20 to 35 per cent of total local wages. (See Col. 3.)

PROTECTION! Self-sealing gas tanks—minimizing the possibilities of forced landings and fire when fuel containers are bullet-pierced—are part of the modern equipment of U.S.-built warplanes. (See Cols. 4, 5 and 6.)

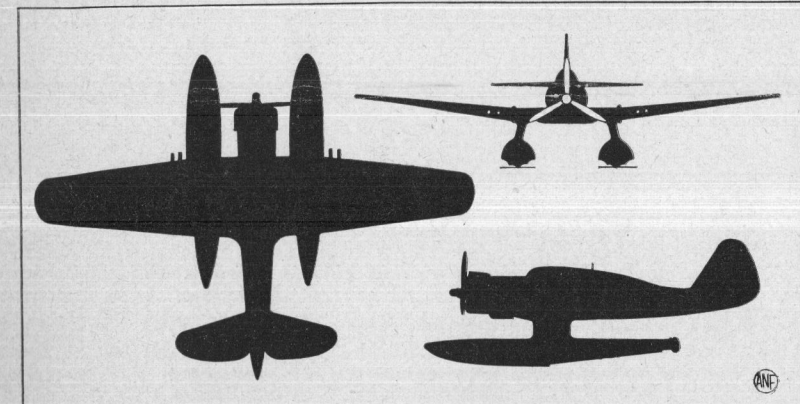
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RELEASE MARCH 15

Know America's Planes

NORTHROP PATROL BOMBER



The manner in which America's aviation industry can produce aircraft specially fitted for all types of military operations is illustrated by the ship you see here. It is the Northrop N-3PB patrol bomber and torpedo carrier. Note the pontoons. By eliminating external bracing, Northrop engineers provided space for two torpedoes instead of the single torpedo carried by other planes. Heavily armed (note the guns in the leading edge of the wing) the N-3PB carries a crew of three—pilot, bombardier and rear gunner.

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Science Saves Lives of Pilots-- in Aircraft Testing Laboratory

Skilled Technicians Perform Modern Research Miracles to Inspect Plane Materials

Inspection, hand maiden of research, is an important factor in the superiority of American airplanes. This article describes the processes of probing the private lives of airplane materials.

BUFFALO, N. Y., March 15.—(ANF)—If there are doubters in this country who feel pilots are not flying the finest and safest planes in the world, they should take a trip through the new testing and research laboratories of the Bell Aircraft plant in Buffalo, N. Y. Here is demonstrated the American aviation industry's emphasis on quality.

And here the most intricate miracles of modern science are deftly performed by a staff of skilled workers whose sole daily occupation it is to pry into the private life of aircraft materials. Every bolt, every pin, every casting, sent up for laboratory inspection is subjected to the keenest scrutiny, literally inside and out. Immediately it is received, the piece is thoroughly examined by X-ray, science's latest contribution to aircraft testing. Without benefit of mathematics, it will probably suffice for the observer to know that in passing through a metal block, X-rays will record on a suitably placed film a complete history of conditions existing within the block. X-ray examination is, in fact, the only method known to man which enables visual inspection of interiors of solid objects in the whole state.

Thus, the casting is X-ray viewed from every conceivable angle and all internal peculiarities closely studied. The defect, if any, may be a tiny gas pocket smaller than the head of a pin, or a thin, tenuously crack.

TESTING GOES ON

After leaving the X-ray, our casting must lose its identity as a unit and be split into a number of sections—each one to undergo its own special vicissitude.

One bit, for instance, is immersed in a salt spray bath, where a continuous Niagara of brine beats against it hour upon hour, trying

to its limit the casting's ability to withstand corrosion.

Now a second piece of the original casting goes into the jaws of the great tensile machine and is either ripped apart or compressed to destruction by man-generated forces equal to 300,000 pounds of sheer, dead weight. Careful observation and meter readings give extremely vital information on the probable strength or behavior of a fitting subjected to the gruelling punishment taken by a plane hurtling through space.

NOW, A TREMENDOUS JOLT

Next comes the impact tester, a pendulum-like affair which strikes the specimen a tremendous jolt and measures the energy needed to break metal under sudden, heavy blows.

Then, too, samples of the metal must naturally be chemically analyzed to insure against faulty composition and the crystal structure must be scanned by microscope to check orientation of the tiny building blocks which comprise all matter.

Elsewhere about the laboratory can be seen a furnace for hardening metals, a delicate instrument for measuring that hardness, a vibratory fatigue tester which literally shakes samples apart, a rotary device to whirl samples to destruction by centrifugal force, a small machine shop equipped with the latest drills, lathes, milling machines, and cupboards filled with all manner of fine research tools.

Big Payrolls of Airplants Aid Business

Aircraft Contributes up to 35 Per Cent of Total Wages

LOS ANGELES, March 15.—(ANF)—As the aircraft industry moves toward its 1941 peak employment this summer, the far-reaching economic influence of the industry is felt throughout the entire country. Already in many communities where aircraft plants are located, aviation industry payrolls account for from 20 to 35 per cent of the entire city's payrolls.

In a nationwide cross-section survey, the Aviation News Committee of the Aeronautical Chamber of Commerce of America found aircraft payrolls accounting for more and more of the community incomes.

PER CENT AT BUFFALO

1) In the East, payroll and employment figures show that Curtiss-Wright and Bell Aircraft combined account for 20 per cent of the total payroll of Buffalo, N. Y.

2) Vought-Sikorsky Division of United Aircraft at Stratford, Conn., alone accounts for 35 per cent of the total community payroll of industrialized Hartford county.

3) At Williamsport, Pa., the Lycoming Division of Aviation Manufacturing Corp. provides 30 per cent of the total paid all workers in that city.

4) Wright Aeronautical division of Curtiss-Wright at Paterson, N. J., supplies 25 per cent of Paterson county's total industrial payroll.

PACIFIC COAST EFFECT

5) In the Pacific Coast, aircraft manufacture has equal importance in the industrial picture. Total aircraft payroll at San Diego, Calif., estimated at \$34,000,000 for 1940, was 22 per cent of the community total and has increased since. At San Diego are located Consolidated Aircraft, Ryan Aeronautical and Solar Aircraft. The 1941 aircraft payroll for these plants is estimated at \$60,000,000—or nearly one-third of workers' income in that city.

6) At Seattle, Wash., Boeing Aircraft plants employing 11,000 supply more than 35 per cent of the city's worker income, with a current monthly payroll of \$1,350,000.

7) Douglas Aircraft, with plants at Santa Monica and El Segundo, Calif., has a current payroll of \$3,310,000. Total payroll for 1940 was \$27,126,269, a figure soon to be increased to \$70,000,000 annually when peak employment is reached.

8) Lockheed Aircraft and its affiliate, Vega Airplane, at Burbank, Calif., have a combined monthly payroll of \$3,800,000 and expect to double this by December.

BOEING EMPLOYS 11,000

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But none of these mean as much as the prized "Martin firsts"—first American twin-engine bomber; first model mail plane; first flying boats to demonstrate successful commercial transoceanic flying, and many others.

FLYING FORTRESS

Boeing's new B-17D improved model of the B-17 series of Flying Fortress heavy bombers is now going through tests by the United States Army Air Corps. The latest version of the series is equipped with turbo-supercharger, cowling flaps, armor plate protection for the crew and leak-proof fuel tanks. It is powered by four 1,200-horsepower Wright engines with a speed well in excess of 300 mph.

PLANE FACTS:

1,006 Identical Ships Being Built

Holding the largest order for a single type of airplane ever placed by the United States Navy, the Vought-Sikorsky Aircraft Division of United Aircraft Corp. is now producing 1,006 observation scout airplanes.

Production of the North American AT-6A, advanced trainer, latest addition to the U. S. Army Air Corps training program, will soon attain peak levels at the Inglewood, Calif., plant. SN-3 trainers, almost identical, are being made for the Navy.

The new Army Air Corps equipment program is being built around a dozen types of aircraft, not including trainers and observation ships. These are: two types heavy bombers, three medium bombers, three light bombers, three pursuit types and pursuit interceptors.

Batteries of instruments which tell the flyer his position and how every part of an airplane is functioning are the eyes of the aviator today. At the Glenn L. Martin plant at Middle River, Md., instruments are tested on the ground by being placed under a glass bell in which special atmospheric conditions are simulated.

200 New Landing Fields

National Defense Asset

WASHINGTON, March 00.—(ANF)—First phase of a broad program, work on 200 new landing fields is being started. More airports are planned as the program gets under way, with the United States Army Engineering Corps in charge of the actual work. Hundreds of new airports scattered all over the country are an important link in national defense needs. Probably 75 per cent of the projects will be handled by WPA under supervision of the Army.

Tabbed first as a \$50,000,000 program, another \$80,000,000 is asked for in Congress. Secretary of Commerce Jesse Jones, vitally interested in airports, is believed to be thinking in terms of spending nearly \$300,000,000 of defense funds for new facilities.

RESEARCH FINDS WAY

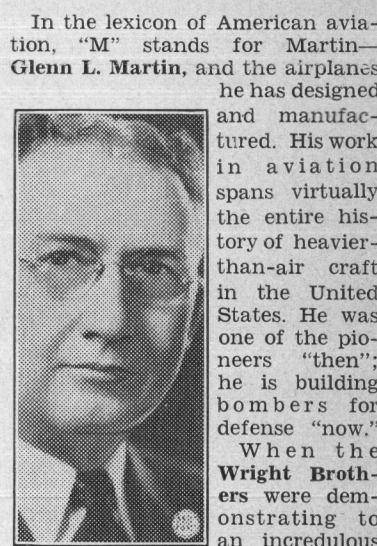
Rigid are the requirements of the Army in its specifications for the new sealing material. Rubber

Aviation News Features

Assembled and Released by the Aviation News Sub-Committee of the Public Relations Committee, Aeronautical Chamber of Commerce of America

Aviation's Who's Who

GLENN L. MARTIN



In the lexicon of American aviation, "M" stands for Martin—Glenn L. Martin, and the airplanes he has designed and manufactured. His work in aviation spans virtually the entire history of heavier-than-air craft in the United States. He was one of the pioneers "then"; he is building bombers for defense "now."

When the Wright Brothers were demonstrating to an incredulous group of on-lookers at Kitty Hawk that their contraption would fly, Glenn L. Martin was building gliders. By the next year, 1908, he had designed and built a pusher type of airplane and had taught himself to fly it.

From that day to this, the episodes of Mr. Martin's career read like a chronology of aviation progress: 1909—Martin established one of the first airplane factories in the United States; 1911—Martin incorporated the Glenn L. Martin Co., at Santa Ana, Calif.; 1912—moved factory to Los Angeles, and the same year capped his exhibition flights in the United States and Canada by flying to Catalina Island, from the Southern California mainland at Newport, 1917—merged interests with the Wright Co., resulting in Wright-Martin Aircraft Corporation at New York; 1918—organized the Glenn L. Martin Co., of Cleveland, designed and built the first American airplane for the Army and Navy; 1929—relocated plant at Middle River, Md.; 1933—first Martin clipper flying boat demonstrated practicability of trans-oceanic passenger and cargo flying; 1938—first ocean transport making possible non-stop New York-to-London flights with payload; 1940—Martin plant expanded for quantity production of bombers for the Army.

Many of the highest honors aviation can award have come to Glenn L. Martin; the Guggenheim medal in 1940; the Collier trophy, presented by President Roosevelt in 1932 for the greatest achievement in American aeronautics that year; Fellowship in the Aeronautical Society of London; presidency of the Institute of Aeronautical Sciences.

But none of these mean as much as the prized "Martin firsts"—first American twin-engine bomber; first model mail plane; first flying boats to demonstrate successful commercial transoceanic flying, and many others.

STEADY ACCELERATION

The aircraft industry's record in the last 13 months is one of constantly-accelerating deliveries. Beginning with 83 planes in January, 1940, deliveries to the British mounted monthly, with two exceptions.

Reaching the 1940 high of 357 planes last August, the aircraft builders were retarded in September and November by change orders rushed through by the British for more guns per plane. These orders, occasioned by installation of thicker armor plate on German aircraft, forced re-designing—and then picked up quickly. In October, 287 planes were shipped to Britain; in November, 247; in December, 321, and in January, 419.

Northrop Delivers Two of Patrol Bomber Order

HAWTHORNE, Calif., March 00.—(ANF)—The first two ships of an order for naval patrol bombers have been delivered by Northrop Aircraft, Inc., to the Royal Norwegian Air Force in Canada.

Designated as the N-3PB, the ships are high-speed all-metal monoplanes. Speed is placed at above 245 mph and full load ceiling over 24,000 feet. Fully loaded, the seaplanes can fly 1,000 miles. They carry a crew of three, are armed with heavy caliber machine guns and have a bomb load of 2,000 pounds.

Self-Sealing Gas Tanks in Combat Ships

American-Built Aircraft Get Modern Safety Equipment

LOS ANGELES, March 00.—(ANF)—"Shot out of the sky in flames!"

Such military communications have been made obsolete, in so far as the new American-built military airplanes are concerned.

Invented in America and put to practical use as early as 1917, self-sealing fuel tanks are today a part of the standard equipment of America's fleet of military airplanes. When this improvement is added to airplanes with their high speed, hard-hitting firepower, and armor, the American-built aircraft are among the most formidable weapons in the world.

Aside from technical details which are still military secrets, the operation of the self-sealing fuel tanks is simple.

RUBBER DOES IT!

When a fuel tank is punctured by a bullet the gasoline is brought into contact with a rubber compound which immediately swells and fills the hole, sealing it completely, preventing fires and saving fuel.

This rubber substance lines the gasoline tanks of the airplanes like an inner tube in an automobile tire. Its inner surface, which comes into contact with the gasoline in normal flying conditions, is inert and unaffected by the fuel. Only when this coating is punctured by a bullet is the gasoline permitted to act upon the sealing element of the tank.

Rigid are the requirements of the Army in its specifications for the new sealing material. Rubber

Britain Gets 419 U. S. Airplanes During January

7,000 to 8,000 Ships to Go to England This Year

WASHINGTON, March 15.—(ANF)—American aircraft manufacturers, in the first month of 1941 alone, turned over to Britain one-fourth as many warplanes as they delivered during the entire year 1940, a year in which the U. S. aircraft industry increased production for the British nearly 600 per cent over 1939.

Unofficial estimates indicate that between 7,000 and 8,000 machines will go to Britain during 1941.

An Aeronautical Chamber of Commerce of America study, released today by the Aviation News Committee shows 419 planes shipped to British Empire points in January. It is believed that residual aircraft—planes delivered to British agents in the United States in January, but not actually shipped abroad—would lift the total delivery figure to over 500. The aircraft industry built about 2,000 planes for the British in 1940, and about 300 in 1939.

FIVEFOLD INCREASE

The January, 1941, exports were five times those of January, 1940, and numbered 99 more planes than the 320 shipped in December, 1940—nearly a 25 per cent increase.

Full scope of the American government's effort to supply Britain is sharply delineated by the fact that 93 per cent of all aeronautical exports in January went to the British Empire. The United Kingdom received 102 planes; Canada, 135; Gold Coast, 120; British Malaya, 43, and the Union of South Africa, 19.

In the aircraft engine field, American builders, under government supervision, sent 305 military power plants to the United Kingdom, 135 engines to Canada, and smaller numbers went to other British Empire components.

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Reaching the 1940 high of 357 planes last August, the aircraft builders were retarded in September and November by change orders rushed through by the British for more guns per plane. These orders, occasioned by installation of thicker armor plate on German aircraft, forced re-designing—and then picked up quickly. In October, 287 planes were shipped to Britain; in November, 247; in December, 321, and in January, 419.

Wild West Molds R. A. F. Nicknames for U. S. Aircraft

Members of Britain's fighting R.A.F., who are beginning to use American-made warplanes in increasingly large numbers, have devised new and intriguing names for the various models. Apparently the Indian and Wild West days of America were recalled by the overseas airmen, because the sobriquets seem to suggest that source. Here are some of the names:

Curtiss P-36, the Mohawk; Curtiss P-40, the Tomahawk; Brewster fighter, the Buffalo; North American NA-73 pursuit-interceptor, the Mustang; Bell P-39 (Airacobra), the Caribou; the Lockheed P-38, the Lightning; the Vultee Vanguard, P-48C, the Vengeance.

The Lockheed bomber is currently known over there as the Hudson; two models of North American training ships are called respectively the Harvard and Yale; two Martin bomber models have been designated as the Maryland and the Baltimore; Consolidated B-24, the Liberator; Douglas DB-7 bomber, the Boston; Consolidated PB-5, the Catalina. The R.A.F. boys seem to have retained use of but one of the original American designations—the Grumman Skyrocket is still known as the Skyrocket.

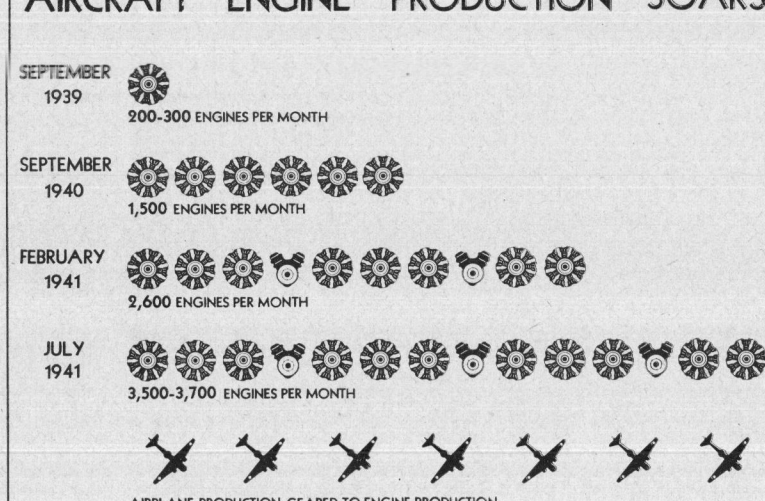
More Pilot Schools

WASHINGTON, March 00.—(ANF)—Eleven more civilian schools have been awarded flight training contracts by the U. S. War Department. The schools will provide primary training for the thousands of pilots needed to man the warplanes being produced in American factories.

2,600 Engines for Defense Planes!

RELEASE MARCH 15

AIRCRAFT ENGINE PRODUCTION SOARS



UNDER DEFENSE STIMULUS, MAJOR AVIATION MOTOR PLANTS CARRY FEBRUARY 1941 PRODUCTION TO NEW HIGH LEVELS. Each symbol represents 250 Engines.

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GENERAL ARNOLD WRITES-- Air Officers Analyze Sky Armadas

The pressure under which American aircraft manufacturers have had to function to uphold their end of the nation's defense program has not prevented them from doing a superb job within a remarkably brief space of time in the opinion of two outstanding figures in the United States Air Corps.

These two men, both equipped to offer expert testimony, are Major General Henry H. Arnold, Chief of the United States Army Corps, and Colonel Ira C. Eaker, another top ranking air corps officer.

Their new book, "Winged Warfare" (Harpers, \$3.00), is a compact consideration of the dramatic fashion in which air power has changed the maps and destinies of the entire world and, more specifically, just what such a transformation will mean in terms of America's national security.

They set forth the reassuring fact that it must be a matter of pride to both our military leaders and citizens alike to know that as we stand today, our planes, type for type, are in all cases equal to, and in many cases superior to the aircraft now engaged in the spectacular fighting overseas.

AERIAL WARFARE

Viewing the airplane as a weapon of war, Messrs. Arnold and Eaker have gone into interesting detail of every phase of aerial warfare. Planes, guns, bombs, cameras, engines, air bases, air tactics and air strategy are discussed with the deft touch of men who have spent years studying such topics and possessing the ability to set down their findings in slashing, concise English.

Discussing American plans for an output of 36,000 fighting planes by 1942, the authors think this number of ships may not be adequate in event of a war between the United States and a coalition of the leading powers of the world now unsympathetic to our government and our economic policies.

That will mean, they continue, that by 1942, when we have reached our 36,000 score, we might have to double it. And they seem to have small fears but that this could be done.

The authors trace, step by step, the methods utilized by Germany to build up a great air establishment and they tell of the effective mating of that murderous duo, the Stuka bomber and the Panzer divisions.

The type of fighter which has had the best "luck" in European wars to date, the authors conclude, is the light, single-seater of the type of the Spitfire, Hurricane or Messerschmitt 109. Their speed and maneuverability is generally sufficient to permit such planes to choose their own positions for combat with the larger types. The mortality rate of planes is high, it is pointed out. Battle losses of some types of ships run from 25 to 50 per cent a month.

INCREASE RANGE

The authors say that the range of the big sky cruisers has been much too restricted. The range must be raised between 8,000 and 12,000 miles within the next three to five years. If American bombers are given this superiority, the bases from which any foreign aircraft could be launched against us can be destroyed or harassed before enemy planes can be brought within range of our critical areas. They add:

"Name our enemy with definiteness and one can say with assurance what the range of our bombers should be!"

This treatise on air power should go a long way toward informing the public about mystery weapons, about air defense and about our national security.

February Motor Production Hits New High Level

3 Major Plants to Make 3,700 Units Monthly by Midsummer

RELEASE MARCH 15

NEW YORK, March 15.—(ANF)—Aircraft engine production in the United States was pushed to a new record figure during the month of February, 1941, with an estimated output of about 2,600 high-power engines, approximately 200 more than were produced during the preceding month.

A survey of the three principal manufacturers, Pratt & Whitney, Wright Aeronautical and Allison, released today by the Aviation News Committee of the Aeronautical Chamber of Commerce of America, indicates their combined output as:

September, 1939 (outbreak of European war): 200 to 300 engines a month.
September, 1940: 1,500 engines a month.
July, 1941: 3,500 to 3,700 engines a month.

400 ALLISON UNITS

The Allison division of General Motors Corp., manufacturers of the liquid-cooled Allison airplane engine, was said to have completed about 400 units during February, as compared with 350 during January. The company is understood to be planning for a production of 1,000 engines a month by the end of the current year. Allison now holds army orders for \$234,000,000 worth of their motors, the engines being designed for installation in the Curtiss P-40, the Bell Airacobra, the Lockheed P-38 and the North American NA-73 pursuit interceptors.

Pratt & Whitney were said to have produced engines totaling 1,000,000 horsepower during the month of February, and it is expected that by July, 1941, new plant facilities now under construction will be completed and the horsepower output raised to about 1,500,000. By the end of this year the output will have been increased to 2,000,000 horsepower per month.

WRIGHT OUTPUT UP

Output at the Wright plants moved up steadily from a rate of 1,100,000 horsepower monthly in January of this year, with February topping this figure by perhaps 10 per cent. March and April will see this figure stepped up considerably and the May production should range around 1,750,000 1,750,000 horsepower.

Which means that by midsummer of this year these three corporations should be producing a total of nearly 3,700,000 horsepower each month.

In addition to this output, several automobile companies are preparing to get into engine production during the present year—including Ford, Buick, Packard and Studebaker.

AEROQUIZ

How Many Planes for U. S., Britain

Q—What is the present production objective of the aircraft industry?

A—The present government program calls for 36,000 to 37,000 airplanes by mid-1942, ranging from huge four-engine bombers to trainers. About 21,000 are for the United States military forces with the remainder for Britain and Canada.

Q—How does a de-icer work?

A—There are several methods. One type utilizes a rubber "shoe" along the leading wing edge which is automatically pulsed, cracking off the ice as it forms.

Q—What are the characteristics of a pursuit interceptor airplane mentioned so frequently in the day's news?

A—An interceptor is a rapidly climbing fast pursuit type airplane, heavily armed and operating only over a short range. The purpose of an interceptor is what its name implies—to intercept enemy offensive aircraft.

Q—What is meant by a three-point landing of an airplane?

A—A three-point landing is a normal landing when the two main wheels and tail wheel or skid touch the ground simultaneously.

Q—What are the chief materials used in the construction of so-called "plastic" airplanes?

A—Plastic airplanes are constructed largely of wood. Substituted for the aluminum metal skin of the modern aircraft are layers of laminated wood. The plastic is generally a resin-base material which can be molded. This is applied over the outside surface of the airplane and baked, forming a bonding agent.

More Pilot Schools

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Aviation News Features

Editors have suggested that the Aviation News Committee make up a standing head suitable for use with various columns appearing regularly in AVIATION NEWS FEATURES, such as "Quote and End Quote," "Plane Facts" and "Aeroquiz." Therefore, the Aviation News Committee has created this standing head, available in one- and two-column widths in form, which will be sent to editors upon request. Please write to Aviation News Committee, 7046 Hollywood Blvd., Los Angeles, Calif.

