

— Aviation —
**RACE TO COAST
 TRUE TEST OF
 PLANES' MERIT**

Advance Made in Aviation
 in Last Year Will Be
 Demonstrated.

By Times Special
 NEW YORK, Sept. 6.—The entries for the Transcontinental Air Races from New York to Los Angeles the second division of which started today, show the progress made in the United States since the race to Spokane last fall.

New planes and many new motors indicate how successful the last twelve months have been in development of machines and power plants.

When the list of more than seventy planes entered in the various classes this year is examined, it is found that there are two outstanding improvements. One is cleaner design and better construction; the other, the increasing number of engines of low and medium horsepower which have been placed on the market to take the place of the OX.

Thirteen Types of Engines

No less than thirteen types of engines are listed among the power plants this year, whereas last year there were only two in the races, the OX and the Whirlwind.

Nearly all these motors are air-cooled radials. Some are of entirely new design, some rebuilt foreign motors, some of foreign design which are being built in this country.

Nearly all yet have to be thoroughly tested in actual service under difficult conditions and over a long period of time, which gives to these races the aspect of a laboratory test for airplane motors.

Nothing shows the weakness of an engine quicker than a long, high-speed flight, and many a plane which limped into Spokane last fall proved that parts of even the most reliable motor in the race needed strengthening.

Real Test For Planes

These races bear the same relationship to the development of the airplane and the airplane motor as track races did to the automobile.

It is the engine and the plane that win races in the long run, and for this reason these cross-continent derbies have now a much greater importance in aviation than had been anticipated.

Although the non-stop race, which starts on Sept. 12 will be the most spectacular, the other three classes probably will mean more to those interested in the technical side of aviation.

There are seven entries in the non-stop race this year, two Lockheed, two Bellanca, a Stinson, a Cessna and a Buhl special. Four of these planes use Wright Whirlwinds and the Lockheed will each have a Pratt & Whitney Hornet, with which it is hoped they will make nearly 190 miles an hour.

Mountains May Snag

Just what the Lockheed will do with their heavy engine and a heavy load of gas is problematical. They will have to take off with more than Goebel lifted on the West Coast, but, on the other hand, they will not hit the mountains as quickly as he did, and he had no difficulty in climbing to 8,000 feet in a short time.

One of these planes will be piloted by Major William Thaw of Lafayette Escadrille fame.

In the other classes there are at least twenty-eight types of planes. One is a low wing monoplane, the Mohawk, and one a sesquiplane.

The monoplane predominates, and the cabin type of plane is common even in the smallest class, in which hardly a cabin plane was entered last year.

Hassell May Visit Danes

By United Press
 JULIANEEHAAB, Greenland, Sept. 6.—Bert Hassell and Parker D. Cramer, pilot and navigator of the airplane Greater Rockford, may go to Denmark before they return to the United States, it was indicated today.

The two pilots, rescued after they had tramped through Greenland for two weeks after their machine had been forced down, went by motor boat yesterday to Holsteborg, on the coast, where it is considered likely they may board a vessel that will take them to Denmark.

Air Course at N. Y. U.

A three-year course in practical aviation will be offered by the evening engineering division and the extension service at New York University this year, Prof. Collins P. Bliss, associate dean of the college of engineering, announced today.

The course is designed for workers in aviation who have not had the time or preparation for the advanced work of the Guggenheim School of Aeronautics of New York University. Classes will start during the week of Sept. 17.

City Airman Promoted

Earl F. Ward, Chicago, son of Mr. and Mrs. J. F. Ward, University Heights, has been named chief of operations by the Interstate Lines, Inc., new Chicago-Atlanta air mail route operating company, it was learned here.

Ward, an air mail pilot since the World War, was graduated from Manual Training High School in 1916, and served as a Marine Corps pilot in the war.

He was one of the "Big Six" pilots flying between New York and Cleveland, and holds the record for speed with a loaded plane.

Recently he refused an offer to accompany Commander Richard E. Byrd on his Antarctic expedition.

666

Kills Malarial Germs and quickly relieves Billoousness, Headaches and Diseases due to temporary Constipation. Aids in eliminating Toxins and is highly esteemed for producing copious watery evacuations.—Avertissement.

Air-Rail Service Starts



Co-ordinated railroad and airplane passenger service, operating on definite schedules, was inaugurated in Chicago with the first flight of a giant tri-motored Ford plane, carrying passengers from the East to St. Paul and Minneapolis. The plane saved a whole business day for travelers. Miss Eckerhardt, first passenger, is shown handing her ticket to Agent Peterson at Chicago.

**AIR GIANT IS READY
 FOR OCEANIC JUMP**

**Mammoth 'Zep' to Undergo
 Tests Next Week, Leave
 for U. S. Oct. 12.**

BY WILLIAM PHILIP SIMMS

Scraps-Howard Foreign Editor

FRIEDERICHSHAFEN, Germany, Sept. 6.—Graf Zeppelin, the world's biggest airship, began inflating today for a series of round trips to America as the first step in regular commercial service.

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— Aviation —

**NINE BOMBERS
 LAUNCH LONG
 DASH TO COAST**

**Gruelling Test Faced by
 'Dragon Flies of War'
 in 48-Hour Hop.**

*By HERBERT LITTLE
 United Press Staff Correspondent*
 SHREVEPORT, La., Sept. 6.—Nine winged, brown-banded dragon flies of war, each sixty-four feet in span, set out today to fly 1,600 miles in forty-eight hours' elapsed time—more than half way across the continent.

The bombing planes of the second bombardment group expect to set a record for travel in their huge transports, in addition. They must do it to reach Los Angeles in time for the opening of the National air races Saturday and to comply with their "war orders" to mobilize on the West Coast to repulse a theoretical threatening enemy nation's fleet.

Today's mission, as set by Major Hugh Knerr was to fly 800 miles from Shreveport to El Paso. Tomorrow an attempt will be made to fly to San Diego, where the fliers car, rest, and take a short hop to Los Angeles Saturday.

Eight hundred miles in a two-engined, five-ton bombing plane compares with about 3,000 miles in an easy-riding pursuit, observation or passenger plane, and nine bombing planes flying in formation makes the pilot's delicate job of handling his bulky machine about twice as difficult.

Yesterday the flying fortress covered the distance from Montgomery, Ala., to Shreveport in five and one-half hours' flying time. Major Knerr had planned to spend last night at Dallas, but bad weather delayed the departure from Montgomery several hours and additional delays were experienced at Monroe, La., and Shreveport, when it was necessary to stop for refueling.

At Monroe the supply of gasoline ran out after half the bombers had been refueled. It developed that two truck loads ordered the day before failed to arrive, and it was two and one-half hours before the bombers left Monroe.

Landing Lights on Planes

All airplanes on the Embry-Riddle Company, Cincinnati-Indianapolis-Chicago air mail route, have been equipped with landing lights for night flying. Donald A. McConnell, local representative of the company, announced today.

The present schedule of the route, leaving Indianapolis at 6:15 p. m. daylight saving time, requires use of the lights for landing at Chicago each evening.

In addition, the lights are available for emergency landing on the route.

In the Air

CONDITIONS AT 9:30 A. M.

(Compiled for The Times by Government Weather Observer J. H. Armstrong and Donald A. McConnell, Government aeronautical observer.)

East wind, 11 miles an hour; barometric pressure, 29.29 at sea level; temperature, 70°; visibility, unlimited; visibility 3 miles; ground haze.

INDIANA LAW SCHOOL

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Three years' course of study leading to the degree of Bachelor of Laws. Fall term opens Sept. 19, 1928. For information, address JAMES A. KOHNBACH, Dean, Indiana Law School.

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*First Semester
 September 10, 1928*

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For information call Talbot 1904, Alice Corbin Sies, Pres.

Teachers College of Indianapolis

Founded by Eliza A. Blaker in 1882

Courses in Kindergarten, Primary, Intermediate Grades and Special Courses in Home Economics and Public School Music. Credits interchangeable with other state accredited schools. Excellent practice teaching facilities.

Fall Term Opens September 6

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Indiana Business College

of Indianapolis. The others are at Marion, Muncie, Logansport, Anderson, Kokomo, Lafayette, Columbus, Richmond and Vincennes—Or, Butz, President. Wherever you may attend, you will be entitled to all the advantages of the entire organization. For Budget of information and full particulars, get in touch with the point nearest you, or see, write or telephone Fred W. Case, Principal.

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How Byrd Will Be Guided



This is an actual photo taken by the new sextant camera to be used on the Byrd Antarctic expedition to determine latitude and longitude. The black spot near the center is the sun; the horizontal line is an artificial horizon and the figure below shows the degrees of variation from the real horizon. The chronometer hands show the exact time, and these combined facts are all that are necessary to determine the operator's exact position on the earth's surface.

able for emergency landing on the route.

Lands in Cornfield

By United Press
 MARION, Ind., Sept. 6.—A bomb in the gas line forced Pilot Martin Young of Kokomo to make a forced landing in a cornfield, south of here. With him were V. U. Young, Gary theater man, and Don Young, Steubenville, Ohio. The plane had taken off from Marion, Ohio, and was en route to Kokomo. It was not damaged in landing.

Yesterday the flying fortress covered the distance from Montgomery, Ala., to Shreveport in five and one-half hours' flying time. Major Knerr had planned to spend last night at Dallas, but bad weather delayed the departure from Montgomery several hours and additional delays were experienced at Monroe, La.,