AERONAUTICS

Sky Road Signs

In the future, highways of the sky will be clearly marked with the names of towns lettered in characters from 10 to 20 feet high.

➤ SKY HIGHWAYS in the United States will be marked more clearly than many roads when flying Americans take their family cars of the air out for a Sunday joy ride. Every city, town, and village will be clearly marked so that its exact location is understandable to the pilot.

All of this is a part of a Civil Aeronautics Administration program begun in 1935 to develop a method of marking sky highways so plainly that the possibility of a pilot's becoming lost during contact flight is practically eliminated.

The officially adopted system will be put into effect by the CAA just as soon as the Army's ban on navigational aids to private flying is lifted. It involves the lettering of the name of the town on a roof or wall in characters from 10 to 20 feet high, and also the latitude and longitude of the place, separated by an arrow pointing to true north. In addition, special symbols will tell the pilot the direction and distance to the nearest airport, airpark, or landing area. These four items comprise a complete air guide for the pilot.

A typical air guide might read "DOYLE 39.3 (arrow pointing true north) 95.3." Translated, this means that you are flying over the town of Doyle, located at 39.3 north latitude and 95.3 west longitude. If there is an airport in the vicinity, the name of the airport and the distance to it will appear within the outline of a huge arrow. If an airpark is nearby, this same information will appear in a circle with a short arrow.

In addition to being painted on the roofs and sides of buildings, air guides may also be placed on highways, on mountainsides where the letters and arrows will be formed of crushed rock; on lawns, road intersections and cloverleaves with small shrubs forming the letters; and in desert areas, where letters will be made from enameled metal strips mounted on posts a few feet above the ground. Some markers may be illuminated at night to aid private flyers travelling after dark.

Chrome yellow and black, international orange and white, are the preferred colors for high visibility.

Air guides are already being established around some military training fields. In many states, state officials are urging every town to get on the air-guide map. It is expected that about 100,000 air markers will be required to cover the continental United States adequately.

A special manual has been prepared by the CAA Airways Engineering Division for assisting those interested in installing the guides. Copies will be made available to anyone planning to install air guides.

Science News Letter, August 26, 1944

CHEMISTRY

Fire-Retarding Paint Reduces Fire Hazards

➤ THE NAVY'S new fire-retarding paint reduces the fire hazard aboard ships by reducing the amount of heat radiated from metal surfaces painted with it. This tends to keep compartments of the ship adjacent to the one on fire from getting overheated to the ignition point.

Millions of gallons of this new paint are being used each month on interiors and metal furniture. It was developed as a result of research by the Bureau of Ships under the direction of Rear Admiral Edward L. Cochrane, U. S. Navy.

A thick dried film of ordinary paint, containing linseed oil or some other burnable material, will burst into flame when overheated. By substituting active fire-retarding ingredients, such as antimony oxide, and reducing the amount of burnable material in the paint, it was possible to produce the new fire-retarding paint.

Paint aboard naval vessels is essential to reduce rusting, improve illumination and aid in maintaining sanitary conditions on shipboard. Fire-retardant paints popular on land, such as casein paints, are not suitable for use aboard ships, due to lack of resistance to washing and mildew.

Paints cannot be made fireproof in the sense that they will not be damaged if sufficient heat is applied for a long enough time.

Science News Letter, August 26, 1944

BRAKE — The Navy's newest and largest blimp has a three-bladed Curtiss electric propeller which can be pitched at "reverse thrust" for use as an airbrake or for pivoting.

AERONAUTICS

Propellers Used as Brakes On Navy's Largest Blimp

➤ PROPELLERS are used as brakes on the largest non-rigid airship yet constructed in the United States, the Navy's new M-1. The blimp will be used for antisubmarine patrol duty.

One of the new fully controllable-reversible electric aircraft propellers is attached to each side of the ship. By reversing the blade angles of the propellers, the new blimp can be brought to a virtual standstill in mid-air. It can turn as on a pivot by reversing only one propeller.

Engineers also reported that the controllable feature contributes to faster take-off when the blimp is heavily loaded. By setting the blades at the take-off angle to give them a bigger "bite" of air, and speeding the engines, the blimp, traveling on its landing wheel and using its underside as a wing, can make a running take-off. The reverse thrust propellers can also be used to control the landings more fully.

Built by Curtiss-Wright Corporation's propeller division, the new reversible blade propellers are the first of their type to be installed on lighter-than-air craft. The blimp itself was built by the Goodyear Aircraft Corporation, Akron, Ohio, and is powered by two 500 horsepower engines.

Science News Letter, August 26, 1944