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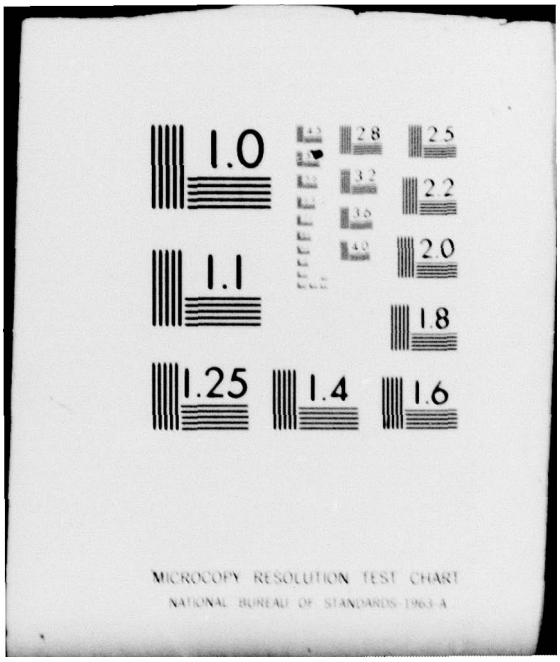
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The Aeroflot We Know...

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THE AEROFLOT UNKNOWN SERVICES

Courtesy of the Novosti news agency to the "Skrzydlata Polska". How difficult the pilot's job is every body knows. The American novel "Airport" for the first time gives a description of the unusual responsibility and complexity of the airport dispatcher's work.

The book certainly dramatizes the situation. However, it touches the problems which people working in this field deal with everyday. However to secure flight safety? How to increase air transport efficiency? The head of the Bureau of Electronic Equipment of the Ministery of Civil Aviation of the U.S.S.R. Tatiana Anodina, on the request of the Novosti news agency's correspondent, tells about Aeroflot helpers widely unknown to aviation, that is about on-ground and on-board automatic systems.

One of the most interesting problems, which is still being solved in civil aviation, is a so-called electronic navigator. The U.S.S.R. air routes are first of all enormous distances as well as the abundance and variety of climatic and geographical zones. It is not difficult to imagine diametrical changes of flight conditions taking place on the Polar Circle-Black Sea air route.

The scientists from the Hydrological and Meteorological Institute under the Ministery of Higher and Special Education of

the U.S.S.R. have developed a quick-acting computer and proper program, which makes it possible to define the flight trajectory on a given route with preciseness. The machine electronic memory "looks through" short-term weather reports from the U.S.S.R. Hydrological and Meteorological Center as well as through the satellite report concerning temperature and humidity, speed and force of the wind on the flight route. After processing all these pieces of information, the computer releases the best flight trajectory, defining dangerous zones of the atmospheric phenomena. During this flight, the human navigator has only to correct the route in case of sudden changes in the situation and weather.

Due to the application of electronic navigator, the passengers will not experience sudden swinging and tossing. The electronic navigator also reduces flight time and fuel consumption. The tests conducted on the Moscow - Mineralnye Vody route have convinced scientists of the above-mentioned.

The electronic navigator, which has been discussed above, is a ground-type system. However, analogous problems can be solved by using on board navigational systems. They are based on a computer which process and release data in the form most convenient for the navigator. These systems not only facilitate the navigation, but also make it possible to reduce the number of crewmen. Contrary to the currently applied systems, the digital systems solve complicated navigational problems faster. These digital systems possess voluminous memory and they can change a program depending on the situation arising during the flight.

WHEN VISIBILITY IS ZERO

The plane landing is one of the most difficult and responsible operations. According to the regulations of the International Organization of Civil Aviation, where the U.S.S.R. is a member,

there are three degrees of the landing difficulty: the first degree when visibility is 60 m vertically and 800 m horizontally; the second degree when visibility is 30 m and 400 m, respectively, and finally the third one when visibility is equal to zero.

The first degree is perfectly accomodated by "Aeroflot's" pilots. Systems of automatic steering at landing have contributed to it. Practically speaking, all planes of the U.S.S.R. civil aviation are equipped with this type of equipment. Planes like IL-62, TU-134, TU-154 are learning how to land under the 2nd degree of visibility.

Planes like Jak-42 and IL-86 soon appearing on routes will be able to take off and land in the fog. Switching to flights independent from atmospheric conditions, according to the scientists' opinion, will be revolutionary a step forward in the aviation as was switching from propeller propulsion to jet propulsion.

HOW TO HELP THE DISPATCHER?

The dispatching service of any soviet airport comprises sometimes at the same time dozens of planes. When situations 1 ke this arise, only automatic systems can be of help. One of them, known as "Start" operates in the Leningrad airport called "Pulkovo". Within several seconds "Start" collects information about the conditions of the flight air zone and transmits it to the dispatcher. As a result of such improvements the airport capacity and flight safety have increased significantly.

A new steering system, known as "Znak" (Sign) has recently been introduced in the Vilnius airport. This system includes an ultrashortwave radion direction finder having increased precision. Through this system it has become possible not only to watch plane movements, but also to transmit the data necessary for flight correction to the cres.

Fig. Edward Yelian, a famous Soviet test-pilot is behind the rudder of the supersonic TU-144 plane before the first take-off.

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