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# PIONEER ACHIEVEMENTS IN SWISS CIVIL AVIATION.

(By courtesy of the Editor of the "Swiss Bank Corporation Bulletin).

"The chief advantage of the aeroplane over all other means of communication is its great speed. Another advantage is its freedom of movement. If the need of traffic communication between two countries becomes manifest, the desired connection can be installed from one day to the next, provided, of course, that suitable airports in both regions are available. By contrast with traffic by rail and road,

there is no need to construct new routes.

"As against these advantages, however, there are certain great disadvantages, the chief being that, in proportion to the weight of the plane itself and to the power needed for its propulsion, the useful load carried is small. The aircraft itself is very expensive. To keep its weight within reasonable limits and to assure the necessary strength, it must be made of very costly materials. In operation, the mechanism of the aircraft must be kept incessantly under close observation and often overhauled.

These lines preface the report issued on April 10, 1953, of an official investigation in Switzerland, ordered in 1950 by Parliament, dealing exhaustively with the national and international problems of civil aviation and showing why, despite its heavy cost, an efficient airways service is now an indispensable part of the equipment of every modern state. This is the answer to the question raised at that time in Parliament, namely, whether a small country like Switzerland really needs an aviation service of its own and whether the financial contribution towards the cost that must be made by the state to obtain it, is justifiable.

Geographically, Switzerland would at first sight appear to be extraordinarily favourably situated to serve as the natural centre of the European civil aviation service. Technically, however, so the report explains, the terrain of Switzerland is unfavourable to aviation. The Alps are a serious natural drawback to flying, especially when it is necessary to start or land in their proximity during bad weather. In central Switzerland, extensive stretches of flat country suitable for laying out modern airports are rare.

If, despite this, the airlines of other countries include Switzerland in their schedules of travel, the reason is not that the geographical position of Switzerland is convenient but that Switzerland is a good customer and that earnings are in hard Swiss francs. Calls are made at Swiss airports only to set down and pick up passengers and freight with the minimum delay. Changes in the economic conditions prevailing in Europe might at any time prompt the airlines of other countries to choose different routes or alter their time-tables to suit their own convenience. To assure the kind of service best suited to her own needs, Switzerland must herself provide what she wants. This is actually being done by "Swissair", a joint stock company partly privately, partly state-

How this arrangement works in practice is clear from the winter time-table for 1952/53. Switzerland was served by 27 "Swissair" and 41 foreign traffic

lines, "Swissair" providing 190 and the air companies of other countries 162 flights weekly. Obviously, without "Swissair", the service would be quite inadequate. Whether, in the improbable event of "Swissair" ceasing to operate, the air companies of other countries could be induced to guarantee to supply what Switzerland wanted would doubtless be a matter of bargaining, but Switzerland could hardly obtain what she wanted without giving corresponding financial guarantees. The air companies of other countries would make the necessary expansion of their services and the requisite adjustment of their timetables only as far as it suited their own business Switzerland could obtain efficient air service only by undertaking to make good at least whatever operational deficits these foreign air companies incurred. This arrangement would, however, be most unsatisfactory because Switzerland would have only limited scope in helping to draw up time-tables suiting her own special needs.

Among the questions asked in Parliament was one whether, considering the weight of the financial burden for a small country, it would not be expedient to restrict the range of Switzerland's airline activities to Europe and perhaps North Africa and the Near East. Extension of services, for example, to South America or Australia, so the queries suggested, would not be justified. This limitation would very substantially lower operating costs and reduce risks. But — as the report emphasises — this would exclude Switzerland from those very regions destined to become decisive for commercial aviation.

Civil aviation is still — and this point is worthy of emphasis — in its early stages. Its infant maladies must still be overcome. These consist primarily in over-rapid growth. Depreciation costs in aircraft as well as high operational costs per passenger leave comparatively little room for fare reductions. As the report points out, passengers are primarily interested in air travel as a timesaver. Over short and medium distances, however, costs make relatively high fares indispensable. Over very long distances, where aircraft can compete successfully in terms of fares, a limited number of travellers are willing to pay highly for the time they save. The airlines thus face the difficulty that fares cannot be greatly cut where this would bring most traffic, and that traffic would not be very much increased by cutting fares where this could best be done. Never-

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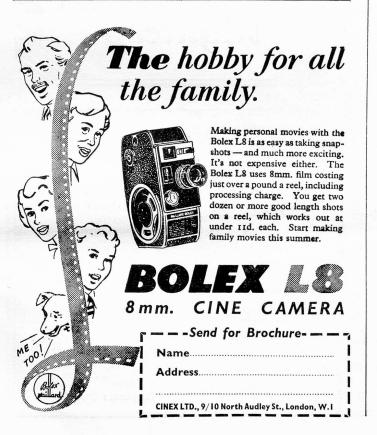
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theless, the first experiences of tourist-class flying at reduced fares have been by no means discouraging.

For long-range operations, the future of commercial aviation lies with jet-propelled planes. The new DC-6B machines of "Swissair" have a maximum speed of over 500 km per hour and an average speed of about 450. On the other hand the new British De Havilland "Comet", which has for some time been in regular service, has some remarkable achievements to its credit and has an operational speed of nearly 800 km per hour.

Probably several years will pass before jet-driven airplanes will be in general use on all great international airlines. Many crucial technical problems have still to be solved. For example, to reduce the consumption of fuel to a minimum, jet-propelled planes must fly at an altitude of 12-14 km. Only at this height is their operation economic. High-altitude flying is, however, not without its risks, among which might be mentioned the possibility of failure of cabin pressurizing equipment causing a sudden decompression likely to prove fatal to both passengers and crew.

But the imperative necessity of moving at the maximum speed in long distance travel compels all airline services to prepare now for the advent of jet-driven passenger planes. This implies that the cost of amortisation of all existing airplane equipment must remain high. Capital expenditure on a heavy scale will be required to strengthen all landing places to enable much heavier planes to start and land and more expenditure still to lengthen all existing runways to permit landing at much higher speeds. As the report says, the runways of all the chief Swiss airports are now being lengthened to meet new



requirements. For example, at Geneva the present runway is to be prolonged by 400-600 metres to a length of 2400-2600 metres. The faster a plane flies, the more difficult it is to supervise its movements in the air, so as to avoid collisions, especially in the neighbourhood of airports, above all when visibility is bad. A jet-driven plane cannot be kept waiting for its turn to land. Quite a new set of conditions for the manipulation of airplane movements above airports has to be provided for. This involves still more heavy capital investment, for example, for the installation of radar equipment and the replacement of telegraphy by telephony for communicating between moving planes and airports.

As the air service companies of all countries are in fierce competition with one another, and as each will adopt jet-driven planes in intercontinental flights as soon as these are available and airports adequately equipped, "Swissair" must move forward in step with the whole trend of development.

Besides the airports at Basle, Geneva and Zürich, Switzerland has altogether 40 airfields, six of which are available for public use. There are no inland air services in Switzerland. All her regular public lines are international. The report of the Swiss Federal Council recommends a certain centralisation of air traffic but points out that the demand for medium and even relatively short lines such as Zürich-London and Geneva-Paris is growing, and is particularly strong during the tourist season. Regional airfields — says the report — will be of increasing significance for use by feeder lines, as soon as helicopter services have been installed. A helicopter company is to be formed shortly to gather experience in operating between regional airfields and main airports like Zürich-Kloten.

In competition with the airlines of other countries, "Swissair" has already some very respectable achievements to its credit. In 1951, according to the I.C.A.O., Switzerland with a record of 23,3 million ton-km was twelfth among the 57 member countries. Some striking figures are given in the report indicating how "Swissair" has grown. Since 1948, the number of persons employed has increased by 36%, standing at 2084 at the end of 1952. Passenger-km rose from 80 millions in 1948 to 223 millions in 1952 and ton-km of freight from 8,6 to 26,6 millions. Seventy per cent of the ton-km freight capacity offered by "Swissair" in 1952 was utilised.

In no country of the world — states the report — are commercial aviation lines financially self-supporting. The payment of interest and the amortisation of the investment capital cannot be paid for out of the earnings. Financial aid from the state is always essential. The chief form of aid "Swissair" has received from the Swiss government has been the formation of an amortisation fund in 1951 to which "Swissair" itself makes a contribution out of its earnings. Besides that, the Swiss government has placed two modern aeroplanes at the disposal of "Swissair" at a yearly rental.

Business in 1952 was so satisfactory that "Swissair" kept all its financial engagements to the state and even declared a dividend of 4%. Now, as heretofore, however, the endeavour will be to make "Swissair" financially self-supporting, and under all circumstances strong enough to hold its own against all foreign competition.