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	DEVELOPMENT OF BOVIET AVIATION T	NOR W

Prof. V. Pyshnov Hon Worker Sol Tooh

The Great Ostober Revolution released the peoples of the Roviet Union from the chains which hindered technological progress, and permitted scientific minds of the USER to make valuable contributions in various fields of endeavout.

'Are of these fields was aviation. The Russians have been interested in flying for several centuries, and this interest subministed in Languador's design-ing the first helicopter, Mendeleyev's valuable contributions to the theory of flight, Mosheyekiy's first practical and operational heavier than air machine

H. To. Zhakovskiy is without doubt the areatest figure in the field of aviation. He is responsible for deriving theories governing the action of a solid bedy in liquids, the operation of the serial propeller and the setion of stars. He much with all morphlate we far constants to fouries to show in of wings. His work with air propellers was far superior to foreign techniques.

Another important contributor to the Soviet field of aviation is S. A. Chaplygin who studied under Ehukovskiy and assisted him in developing the

During Would Mar I, Shutowskiy and V. P. Vetchinkin formed what was the original Russian subtool of flight dynamics and structural stability. It was due to their efforts that many of the second-rate plants which were supplied mately 1917, that the Russian Air Force began to develop from a hardrul of officer flying personnel to an organization which had officer as well as HOO ungineering and flight-personnel.

- 1 -

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Lonin and Stahn realized the possibilities of air power and so, during the early days of the Republic, they organized the Council for Labor and Defense (STO) and assigned to it the task of planning the restoration and development of the aviation industry.

The early days were hectic indeed. New factories had to be built, machinery had to be supplied to equip the factories, but above all there was the need for a large army of trained operating personnel. Zhukowskiy almost singlehanded managed to fill the latter need by organizing the Moscow Aviation Lecture Institute, and late in 1919 graduated his first class of qualified aircraft workers. In the spring of 1922 the Academy of the Air Fleet was organized and was ramed in bonor of the man most responsible for today's Soviet prominence in the field of aviation, N. Ye. Zhukowskiy.

With cessation of civil war, the aviation industry went into high gear. The Academy of the Air Fleet was ready to graduats its first class of Soviet aviation engineers, construction work on the new laboratory for TaAGI (Central Aero-Hydrodynamic Institute) was almost completed, and the Construction Bureau under the guidance of Grigorovich and Folikarpov, and another under the leadership of Tupclev, were developing new and original plane designs.

In 1922 a flying fad gripped the peoples of the Soviet Union. The light plane industry made great strides. Such designers as Il'yushin, Yakovlev, Bolkhowitiner, Antener, Griberskiy got their start at this time. Later on they were to make important contributions to military aviation.

Many different types of planes were built from 1925 to 1930. Photographs show the I-5 fighter, developed by Grigorowich and Polikarpov, the TE-3 bomber, developed by Tupolev and which served as the model for the US Boeing bomber, the PO-2 (originally classed the U-2) trainer, developed by Polikaryov in 1927 and still being utilized. Not reproduced.

Since 1930 swiation has some a long way. The First Five-Year Plan called for an expanded aircraft production program both for commercial as well as military requirements. The technician who designed a plane was sure that it would fly, as every detail of the design was checked and double-checked to insure perfect operation.

Many events intervened between the period from the end of the First Five-Year Plan to the beginning of World War II. Polikarpov designed the I-16 fighter, which had incorporated into its construction many radical new features. Tupolev and Arkhangel'si developed the SB bomber. These two planes are followed by many more: the TsAGI-25, a plane with wing tanks and a potential radius of 15,000 kilometers; the I-153 fighter developed by Polikarpov; the DF-3f modium bomber developed by Il'yushin and the aerial giant the "Makeim Gar'kiy" developed

Stalin had romarkable insight into artistion requirements, and even Maj Gen Stefanovakiy, Air Porce, remarked that, but for the foresight of Stalin, the YaK-1 fighter would never have been developed. It was Stalin who urged that greater emphasis be placed on production of military aircreft the moment that hostilities began in Western Europe. As a result, Soviet air power was greatly strengthened by designs submitted by Mikoyan, Gurevich, Lavoshkima, Gorbunov, Gudkov, Yakovlev, Petlyakov, and Il'yushin when the Fasciets inraded the Scrist homeland. (Photographs of the MIG-3 fighter, IAGG-3 fighter, TaK-1 fighter and the II-2 pursuit and ground troops support plane. (Not reproduced.)

At present, the Soviet Aircraft Industry is being guided by Tsiolkovskiy's words, "After the era of the propeller-driven plane will come the era of the jet-powered place." Chaplygin, as early as 1902, stated the basic theories of jet propulsion and his work has been furthered by able an like Khristianovich, Keldysh, "brasov and others.

- 2 -

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Much has yet to be done. However, if we take into account the wonderful achievements of the past 30 years, there can be no doubt that all new problems will be rapidly solved.

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