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History of Aircraft Construction (Former Tashkent Aviation Factory)

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Abstract: This article covers the history of the former Tashkent Aviation Factory. It covers information on the organization, activities of the factory, information about aircraft produced during the Soviet period, information on the works carried out by the factory, the used transports, the main products of the factory, technological achievements, its state after the independence, reorganization, contribution to the aviation, industry and engineering of Uzbekistan.

Keywords: Tashkent Aviation Factory, aircraft, Aviation factory No. 84, Chkalov, Lisunov, PS-84 or Li–2, An-8, An-12, "Antey", Il-14, Il-76, Personnel Policy, Social Policy.

Introduction

The history of aviation includes the processes of creation, production and improvement of aircrafts. This process consists of the following main stages: In 1903, the Wright brothers made the first powered flight. Their aircraft had a 12-horsepower engine. Later, interest in aircraft production increased in Europe and the USA. Farman, Bleriot and other companies began to produce the first civil and military aircrafts. The First World War gave a small, but significant motivation to the development of aviation.

The war increased the demand for aircrafts, which accelerated production. Specially armed aircrafts for air battles appeared. After the war, the first passenger aircrafts appeared. They were light and reliable passenger aircrafts. Later, aircraft factories were improved, metal structures and aerodynamics rules were developed.

Methodology

Information about the former Tashkent aviation factory is provided in a number of sources. Particularly, a number of books were published in connection with the anniversary of the factory (Сивец В. Н. 50 крылатых лет. — Ташкент, 1982 (Sivets V.N. 50 winged years. – Tashkent, 1982); Ташкентскому авиационному 50. — Ташкент, 1982 (Taskent aviation 50. — Tashkent, 1982), 70 крылатых лет. – Ташкент: ГАО ТАПОиЧ, 2002 (70

winged years. – Tashkent: SAO TAPUn.aCh, 2002); Ўзбекистон авиацияси 70 ёшда. – Тошкент, 1994 (Uzbekistan aviation is 70 years old. – Tashkent, 1994)). Also, information about the former Tashkent aviation factory is given in the dissertation works carried out by researchers (Gazinazarov A. Efficiency of using civil aviation in the national economy of Uzbekistan. Dissertation for getting scientific degree of candidate of economical sciences. – Tashkent, 1983; Narzullaev F. N. History of development of civil aviation in Uzbekistan and its contribution to the rise of the national economy. Dissertation for getting scientific degree of candidate of historical sciences – Tashkent, 1984, Todorova T.N. History of the development of aviation in Uzbekistan in the XX century (problems, ways of their solution). Dissertation for getting scientific degree of candidate of historical sciences. – Tashkent, 2002), Tukhtaboev A.Sh. History of air transport in Uzbekistan (Late XX and Early XXI centuries): Abstract of the dissertation of Doctor of philosophy in History, (Fergana, 2002).

In the 30s of the XX century, aircraft construction began to develop in the former USSR too. Several aircraft factories were put into operation. In 1932, Aircraft Factory No. 84 was established in the city of Khimki near Moscow. The factory was named after Valery Chkalov in 1936. In November of 1941, this factory was relocated to Tashkent, and within two months the first military aircraft was manufactured (Wang, 2022). The process of relocation began on October 16, 1941, and was completed on November 16. 17 trains with 996 wagons of equipment, 9,000 workers and their families were received, 4,886 of whom were specialists (Pei, 2025). Despite the various difficulties, primarily thanks to the work of the relocated Uzbek workers and specialists, the enterprises were quickly settled, and in January 1942 the Aircraft Factory named after Chkalov, which had been relocated from Moscow, manufactured its first products.

During the years of the war, the aircraft PS-84 (in September 1942 it was named Li-2 in honor of the aircraft engineer B. P. Lisunov. The constructor played an important role in organizing the systematic manufacture of the aircraft industry – T.A.) was manufactured. After the factory was evacuated to Tashkent, the first Li-2 aircrafts were manufactured in the open air (zen.yandex.ru).

The PS-84Aircrafts, designed by the US company Douglas, were intended for civil aviation and were manufactured under license in the USSR in 1938. The Li-2 aircraft, manufactured at the Tashkent Aviation factory during World War II, was a military modification of the PS-84 air transport, and was used as a military cargo, carrying landing troops and bomber aircraft.

On February 24, 1942, the USSR State Defense Committee adopted a Resolution “On increasing the production of PS-84 (Douglas) aircraft at Factory No. 84 in Tashkent”, according to which the factory was obliged to produce 30 PS-84 aircrafts in March, 40 in April, 50 in May and 60 in June of 1942, according to the plan producing PS-84 aircrafts. Also, the International Aviation Production Committee approved in 1942 the amount of capital investments for Factory No. 84 in the amount of 40 million rubles, of which 11 million rubles were allocated for housing and communal construction (Pei, 2025). The workers of this factoryt delivered 2,258 aircrafts and 17,342 aircraft engines to the front during World War II (Tukhtabaev, 2020).

After the victory in World War II, the aviation closely collaborated with construction bureaus of I. Ilyushin, O. Antonov, A. Kamov and K. Konstantinov. Thousands of mass-produced Il-14, An-8, An-12, An-22 and Il-76 air transports were the result of this fruitful collaboration.[4]

Within the 20 years after the war, the main factories predominated in the Soviet Union were Moscow Aviation Factory No. 30, Kazan Aviation Factory No. 22, Kuibyshev Aviation Factory No. 1 and 18, and Tashkent Aviation Factory No. 84, which were mainly engaged in the production of bombers and transport vehicles [2, 248].

Result and Discussion

In 1953, the Il-14 transport aircraft was produced in the factory [12], and in 1954, the production of the Il-14 passenger, transport and landing aircraft was expanded. The long-term cooperation between Tashkent aircraft manufacturers and the world-famous Construction Bureau named after Ilyushin was founded. In cooperation with the United Construction Bureau named after O. Antonov, the first An-8 military transport aircraft was produced, as well as the An-12 and Antey heavy transport aircrafts. The growth of the aircraft industry in Uzbekistan made air transport an important sector of the national economy. In particular, the production of the Tashkent Aviation Factory formed the stratum of the aircraft industry and its professionalization in the structure of the population in air transport[6].

On March 14, 1954, the first Il-14 “flying machine” was launched by Tashkent aircraft manufacturers of the “Il” brand[11]. The Il-14 aircrafts manufactured by the Tashkent Aviation Factory named after V. P. Chkalov were exported to China, Afghanistan, Indonesia, and India in 1956. Transport aircraft began to be manufactured in 1958, and the An-22 aircraft in 1966. In the early 1970s, various modifications of the IL-76 transport aircraft were manufactured. The Tashkent Aviation Factory named after V. P. Chkalov, once considered an industrial giant, was transformed into a manufacture association (later the "Association") in 1972, and mechanical plants in the cities of Andijan and Fergana were included in the structure of the head factory [8, 262]. From 1973, the factory began producing one of the best transport aircraft in the world, the Il-76. In 1975, about 5,000 aviation specialists worked at 7 special-purpose aviation enterprises in the Association. In 1976, the association produced consumer goods worth 8,240,000 soums, in addition to aircraft components and parts. The association began exporting its products to 6 foreign countries. In connection with the planned economic system of the Uzbekistan SSR, in addition to aircraft production, the factory was also assigned tasks not related to the main production.

The main product of the factory was the Il-76 MF transport aircraft in the 90s of the XX century too.

The aircraft manufacturers carried out a number of works in Tashkent in the fulfillment of their tasks. Particularly, the factory employees took over the MTS and five collective farms in the Yangiyul and Orta Chirchik districts as a sponsor, and produced more than 400,000 spare parts for tractors and agricultural machinery. In 1942, the factory workers participated in the construction of the North Tashkent Canal. 320 workers carried

out 10,000 cubic meters of earthworks. The factory also contributed to the elimination of the consequences of the 1966 Tashkent earthquake and the construction of a hydroelectric power station. In 1983, the Chkalov station (now Dustlik), the 2nd branch of the Tashkent metro, was built at the factory's expense.

In improving the scientific environment of the factory, the professors such as V. P. Kucherev, N. V. Myshak, K. S. Pospelov, Sh. F. Ganikhanov, candidates of science - U. R. Malin, V. G. Khomova, V. I. Rubin, I. A. Bikbulatov, Kh. R. Alimov, L. Sh, Priluk, V. Yes. Elchibekov, B. M, Froyanchenko, S. M. Ioffe, G. F. Chernaya, R. R. Gaziev, A. A. Romantsev, G. M. Mikhailyan, A. L. Vishnevsky, V. A. Weisburg, T. F. Chursina, B. E. Proshchitsky, R. B. Likhachev and N. N. Cherkasov, the devotees of science played a big role [1, 109-111].

This factory paid special attention to the technical training of personnel, taking into account the experience and seniority of workers training courses were organized in the places. Particular attention was paid to training personnel from local ethnic groups, and training sessions were often held in the workshop, in front of the equipment. As a result, the manufacture leaders taught their working methods, personally showed examples by working themselves. In 1965, the number of factory employees was 28,583 people. In 1975, representatives of 51 nationalities worked at the association, and by 1985, 54,000 workers worked there[6].

The educational process was well organized in vocational and technical schools under the base of the Tashkent Aviation Production Association named after V. P. Chkalov. Great attention was paid to equipping the association with a computing center and 3rd generation electric computers. Information systems built on the basis of electronic computers were widely used in the factory departments. This created new opportunities for solving important issues of rapid and efficient management of workshops. The fulfillment of the plans for production allowed to comprehensively engage in the program in the social sphere.

Special training of the workers in personnel training indicated a positive shift in the level of professional transition. In particular, the creation of new repair equipment for complex aircraft required a significant increase in the skills of workers, their knowledge, cultural and technical level. This case contributed to the growth of labor productivity at the enterprises of civil aviation of Uzbekistan SSR and a two times reduction in the number of accidents associated with flights.

In 1980, the relations of the Association with the Ministry, the scientific research institutes of the Academy of Sciences of Uzbekistan SSR, as well as Moscow, Leningrad, Kharkov and Kazan institutes became active. Graduates of the aircraft engineering faculty of the Tashkent Polytechnic Institute and the Tashkent Aviation College had the opportunity to work at this factory. The professional development training branch of the Tashkent Polytechnic Institute also worked in the Association. A department for mechanization and automation of production was established. Scientists, in collaboration with the specialists of the association carried out a lot of work on the basis of economic contracts[5, 8]. As a result, the implementation of complex measures to reorganize production allowed the association to increase production capacity, the level of savings and

energy supply. A number of measures were taken to build new conveyors, modernize old ones, mechanize manual labor, and save materials. The level of labor decreased by 20 percent, and the productivity of one worker increased by 30 percent.

Particular attention was also paid to the social situation of the workers, and in 1945 the first "Oktash" pioneer camp was built by the factory workers. In 1947, the "Chigatay" rest house was opened, and in 1960, the "Altin Kum" boarding house with a capacity of 1,200 people, located near the village of Bozteri on the shores of Lake Issyk-Kul, was opened. (This boarding house, along with other Uzbek boarding houses located in Issyk-Kul, fully became the property of Kyrgyzstan in 2016 - T.A.). The first amateur film studio in Uzbekistan to master the technique of creating animated films “Sirius” Film Studio named after V. P. Chkalov, was established in 1962 at the Tashkent Aviation Factory.

Housing conditions were improved, dormitories, houses for young families, children's complexes, a Culture center, a shopping center, a maternity hospital, a children's hospital and other necessary social and cultural facilities were built, which played an important role in improving the living conditions of the factory workers. Hospitals, kindergartens, and recreation centers were opened at the factory.

However, due to the economic crisis of the late 1980s, there observed a decline in the activities of the factory.

The planned economy system of the Soviet era guaranteed the demand for manufactured products of each production association. The Tashkent Aviation Factory was engaged in the production of fuselages and necessary engines for the production of aircrafts and supplied other enterprises of the USSR.

After the collapse of the USSR, the government of Uzbekistan set itself the task of increasing local manufacturing and replacing imports with local production. As a result of the policy carried out by the government of Uzbekistan, currency exchange was suspended, and the trade circulation of Uzbekistan with other countries decreased, and financial difficulties were faced. The enterprise itself remained under state control, a small part of the shares (10%) was sold to the labor collective.

In such conditions, there observed a deterioration in working conditions, a decrease in the number of manufactured aircrafts, obsolescence of production equipment, and the departure of qualified specialists. Aircraft production declined, with production levels dropping from 46 aircrafts in 1992 to 6 in 1995, and this tendency continued until production was completely shut down. In 1997, the factory was transformed into the state joint-stock company " TAPUn.aCh” (SAC).

In the 2010s, the infrastructure of the factory was partially adapted to other industrial projects. Some buildings were given to new enterprises or were used for other purposes. By the decree of the President of the Republic of Uzbekistan on April 4, 2012, “TAPUn.aCh” (SAC) was renamed “Tashkent Mechanics Factory” JSC. Aircraft production at the factory continued until 2014, after which the main production stopped. Nevertheless, the role and legacy of the factory in the aviation industry are still recognized.

Conclusion

It can be said that this aircraft factory, which was called the "A city within a city", and considered the pinnacle of the heavy industry of Uzbekistan, achieved great success during the Soviet era. In the 1970s, it was among the 10 best aircraft manufacturing factories in the world. From 1941 to 1990, more than 9,000 aircraft of various types and modifications, considered the most advanced in the world, were produced in Tashkent. The Il-76 was the most famous product of the factory, it is still flying around the world. The factory was one of the main factories in the aviation industry of the former USSR, and played an important role for decades. It made a huge contribution to the development of national engineering and industry. In the future, with the development of the aviation industry, it is possible that some infrastructure of the Tashkent Aviation Factory will be renovated or reauthorized. Although its activities have significantly decreased today, its legacy and past achievements have not been forgotten. Depending on the future development of aviation industry of Uzbekistan, this factory may be revived again. Although the factory no longer exists, its historical significance and legacy are still important.

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