STAGES OF KARTING FORMATION AS ONE OF THE POPULAR AUTOSPORT

Abstract. Autosport appeared at the end of the 19th century and over time conquered the entire world by giving interested persons a race in the literal and metaphorical sense to develop and transform technical ideas that are based on wheels.

Autosport (in English "autosport"), motor sports, also in English "motorsport" — is a category of technical types of sports in which participants compete with each other behind the wheel of cars (prototype, car, truck, SUV, and so on). As of today, there are many different subtypes of motorsport, each of which has its own rules and regulations. Competitions can be for track speed, efficiency, reliability, maneuverability, and so on.

Kart racing - a small car consisting of a frame, a motorcycle engine and a seat. Karts cost less than any racing car and are relatively safe. Karting is therefore the ideal sport for beginners and car enthusiasts.

Keywords. Motorsport, karting, tracks, race, competitions.

Introduction.
The history of the origin of karting once again clearly illustrates the common sentiment that everything ingenious was invented either out of laziness, or out of boredom, or by the military. However, it was just entertainment. Then no one could imagine that after a few years this entertainment would turn into a popular motorsport, which would give the world many great riders.

It is recognised that the birth of karting is a merit of American pilots seeking entertainment in the languorously drawn minutes between flights during World War II. Being on duty at the airfield, these warriors adapted motorcycle engines to a luggage cart and began to travel on them around the airfield. Then, having made several similar cars, they began to hold race competitions.

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Materials and methods.
The beginning of the frenzied activity of this type of motorsport was the initiative of Art Ingels, a fabricator at Kurtis Kraft Company in Glendale, which produced racing cars in Indianapolis. In August 1956, Ingels built the first go-karting. It was a simple high kart, with a primitive hand brake. An engine from the West Band grass-cutter was used as a power-plant unit with a capacity of 1.84 kW (2.5 hp). [1]

For the first time, the kart of Ingels was presented to the general public on the occasion of auto racing in Pomona. Duffy Levingston, later the first serial kart maker, drove a whole circle on the kart. The result of this demonstration was a rapidly growing demand for this kind of car. Duffy created the first company for the production of karts "Go-karts company" (literally - "Running
wagon”). At the same time, Art Ingels began producing karts under the name "Karetta," the company he created was one of the leading among kart manufacturers for a long time.

Further events developed very quickly. The number of karts was already amounted to tens of thousands. There was a need to create special go-kart tracks, unify the parameters of karts and establish karting rules. The first rules were developed in 1957 by the American karting club. These rules lasted almost 10 years, being the basis for karting in America.

The rapid development of karting in Europe began in 1958 after five karts were brought to England. Instantly, many companies specializing in the production of karts appear, special go-cart tracks are being built, discussions about the rules are conducted. The rate of development of karting and its huge popularity is evidenced by this fact: in 1960 there were 120 karting firms only in England. Karting became a form of entertainment and sport. Karting has become quite popular due to its low cost. The popularity of karting is partially due to the fact that the first karts had a rather simple design - the materials and components that were close at hand were used for the manufacture. For example, the wheels were taken from scooters and even helicopters, and once I met a kart, the seat of which was made... - from an aluminum basin! It was possible to make such technical equipment in any school workshop.

The turning point in the development of karting was the creation (in March 1962) of the International Karting Commission, which has become one of the authorities of the International Automobile Federation (FIA) (FR. FIA - Federation Internationale de L'Automobile). Karting was formally recognized as equal to other types of motorsport. New FIA karting rules have been developed, which, with the necessary modifications and clarifications, are still in effect. At the same time, the diversity of the karting design is reduced due to the lack of general rules for their design, the conditions for holding karting competitions are normalized. Manufacturers of karts and engines, as well as organizers of competitions unquestioningly obey the rules - all karts now have the same starting conditions. There were no obstacles for the organizers of European and world competitions. 1964 is the year of the first World Cup, which was held in Rome. The world champion became the Italian G. Sala.[2]

Karting came to the USSR in the late 50's - early 60's. It is believed that the first Soviet kart was built by athlete Vitaly Yenin. The "base" for karting lovers was sections in the Palaces and houses of pioneers - one of them was opened in Kharkov with the support of Yenin. In Kursk, karting pioneer Lev Kononov built the first children's sports micro-car "Kart" in the USSR and founded a circle for karters. He, together with his students, was engaged in design, and the kart schemes were published in thematic publications. The karts were shown to the general public in 1960: the cars went on the track during the break of the Moscow motorcycle racing competition on ice.

In the same year, the USSR Motorsport Federation presented the "Rules for holding competitions, classification and technical requirements for micro-cars of the "Kart" type, which were soon used in the first competitions. In just a year, karting gained quite wide popularity in the USSR - it was possible to assemble the prototype in a garage with like-minded people. In the "Technika Molodezhi" of 1961, they already wrote about karting enthusiasts in Moscow, Leningrad, Tula, Odessa, Tallinn and Riga. In 1962, kart racing began to turn from an amateur hobby into a form of motorsport. At that time, the first all-Union karting competition was held in Riga. It was possible to participate in the competition on karts of two classes: with an engine capacity up to 125 cm³ and up to 175 cm³. The program included a circuit race on asphalt and on a cycle track. The competition was attended by 80 athletes from different regions of the USSR: from Moscow, Leningrad, the Baltic countries and Uzbekistan. A film about this event has
survived to this day - in it you can see what the first micro cars looked like and in what conditions the race took place.

Since 1963, regular competitions began to take place in the USSR. The first summer competition took place in Moscow, and the winter - in Leningrad. The championships were held according to the biathlon system with races on the track and on the bike track, but already at the third championship of the USSR, cycling races were recognized as unsafe (due to heavy loads on the vestibular apparatus of racers) and were canceled. The kart classes remained the same - 125 cm³ and up to 175 cm³. In 1964, Soviet racers took part in international competitions between socialist countries for the first time. The championship was called the Crystal Cup and was held in three stages in Berlin, Budapest and Warsaw. At the same time, international competitions began to take place in Western countries - the first karting world championship was held in Rome. Two years later, competitions between racers of the the Warsaw Pact countries began to take place regularly - in 1966 the Cup of Peace and Friendship (or the Friendship Cup of socialist countries) was established. The championship was held until 1989, and Soviet karters often took prizes in it - Alexander Safonov became the first champion in 1967. In 1978, karters from the USSR began to take part in race with athletes from Western Europe. Already at the first championship, the differences between the Soviet and European approaches to motorsport were obvious. In the USSR, the most important feature of karting was its accessibility to the heaps of people, and not the professional component. Soviet karts were equipped with engines that many car enthusiasts could afford. Serial production of karts was conducted at factories in Tallinn. It was also established at KamAZ and at DOSAAF factories. [3]

Results and Discussion.

Soon, karts began to be divided into two varieties: expensive sports cars for professional racers and cheaper ones for rental in karting clubs. However, they are similar in general terms: the frame as the base of the car, the motor, the pilot's seat, steering, brakes and lack of suspension (that's exactly why the car goes extremely hard and requires perfect asphalt). Models for entertainment are also usually don't have a gearbox - only gas and a brake. However, unlike renting karts with four-stroke motors, racing models are equipped with two-stroke ones. The most powerful has up to 40 horsepower - this is a lot, if you take into account the ultra-low weight of the kart. That is why in terms of acceleration dynamics, such "car" rivals real "supercars" like Ferrari or Lamborghini. These karts are so stable that side overloads on turns can just be tremendous.

Conclusion.

Subsequent years of karting development are characterized by rapid technical progress in the design of the chassis and engine. The number of companies manufacturing karts has been reducing, karts are becoming more perfect and... more expensive. As in each technical sport, money begins to play a decisive role among the factors that affect the sports result. The idea of karting as a popular, affordable sport is protected by karting rules that define such classes of the kart in which technical improvements are limited or prohibited. Today, it is a sport-racing car and most future Formula 1.4 drivers start their careers driving it.[4]

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