

## VARIA

JACEK WĄSIK

Department of Surface Physics, Jan Długosz University of Czestochowa (Poland)  
42–200 Czestochowa, Armii Krajowej street 13/15, email: jwasik@konto.pl

### Modern machines for special techniques event in Taekwon-do ITF / Nowoczesne urządzenia do technik specjalnych w taekwondo ITF

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#### Introduction

The sight of a person breaking a pile of boards or other hard object with his or her bare hand or foot is associated with martial art techniques. Sometimes it can be connected with some supernatural skills and predispositions [Ernst 1992], particularly when it is done to a board placed on the height of 3 meters.

#### Special techniques event

Taekwon-do ITF competitions are divided into four events: patterns, sparring, special techniques and power tests. Each event has got two categories: individual and team, separately for women and men. A team consists of 5 competitors plus one reserve player [Choi *et al.* 1990; Choi 1995; Pawlik 2003].

The special techniques event consists of performing a kick on the maximum height or distance. Some time ago a board was placed in a kind of rack, now a Machine for Special Techniques is used. With its use it is possible to regulate the height and the place of the board (horizontally and vertically) as well as to bend the board to the desired angle. In the event of Special Techniques each competitor has got the right to make one try and one kick.

The event of **Male** Special Techniques contains the following kicks:

1. Twimyo Nopi Aпча Busigi – the height not lower than 2.35 metres (the record of Poland is 3.00 m)
2. Twimyo Nomo Yopcha Jirugi – the distance not shorter than 4 metres (the board placed on the height of 70 cm),



Photo 1. World Championships 2005 Dortmund Germany /  
Fot. 1. Mistrzostwa Świata 2005 Dortmund, Niemcy

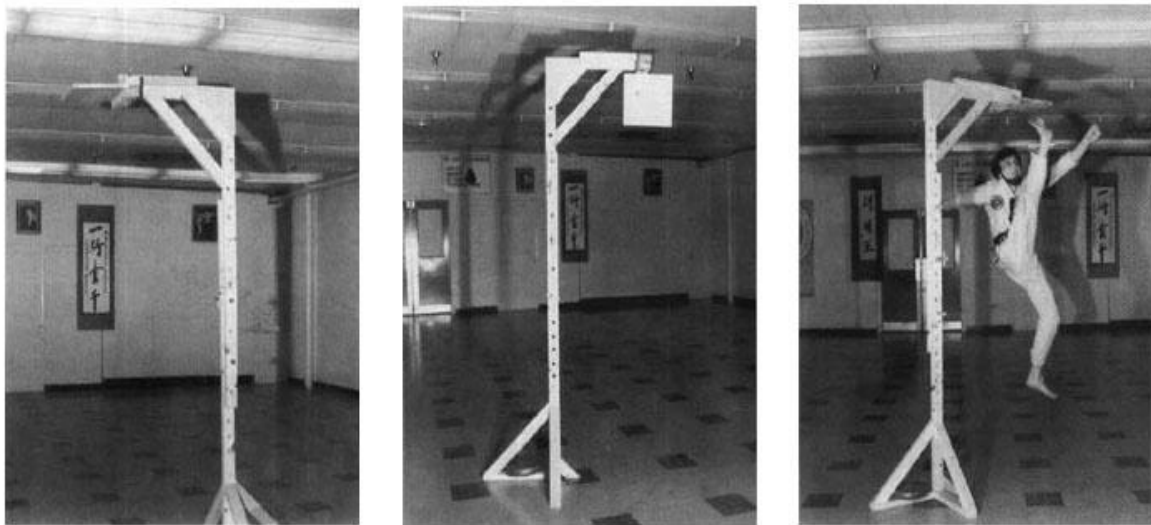
3. Twimyo Dollyo Chagi - the height not lower than 2.1 metres,
4. Twimyo Badae Dollyo Chagi - the height not lower than 1.8 metres.
5. Twiau Dollmio Yopcha Jirugi - the height not lower than 1.8 metres.

The event of **Female** Special Techniques contains the following kicks

1. Twimyo Nopi Apha Busigi - the height not lower than 2.2 metres,
2. Twimyo Nomo Yopcha Jirugi - the distance not shorter than 3.5 metres,
3. Twimyo Dollyo Chagi - the height not lower than 1.8 metres.

In the event of team female special techniques take part three competitors, in the male category – five competitors. These must be the same competitors who have taken part in the previous team events. Each competitor performs one chosen technique different from the others. The sum of points gained by separate competitors is counted to show the winning team.

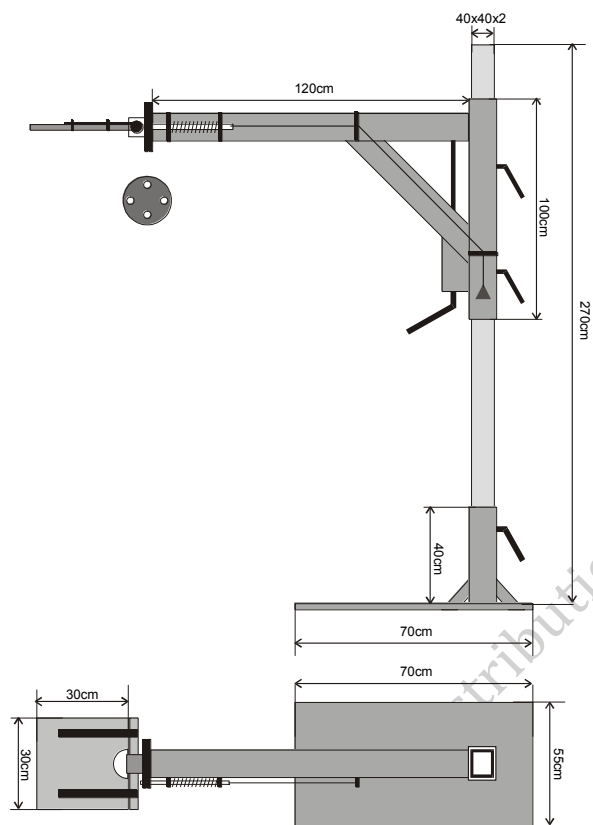
### The construction of the machine



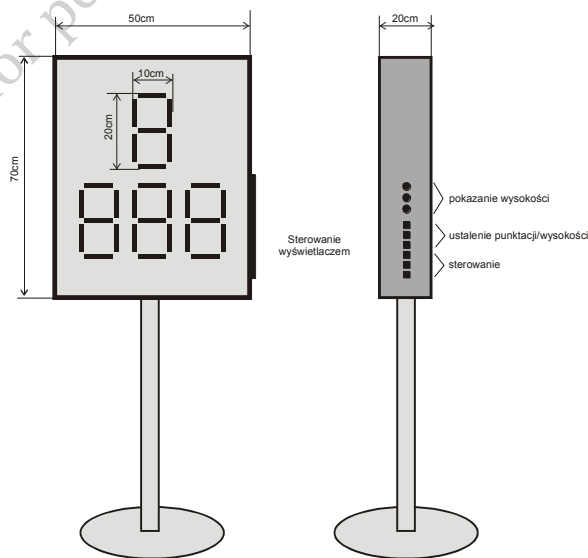
**Photo 2** The first racks for Special techniques on Taekwon-do competitions / **Fot. 2.** Pierwsze stojaki używane do specjalnych technik w zawodach taekwondo

The first racks, which were supposed to ensure the same conditions for all the competitors, were made of wood. A pine board measuring 30 cm x 30 cm x 1 cm was fixed in the holder and when the breaking test was successful, the board was replaced by another. Nevertheless, all boards are different, one has got knots, another does not, which was a problem when taking into consideration the objectivity of the event. Another problem was the fact that to change the position of the board you had to stand on a chair. Moreover, it was common to set a height known by the referees and competitors but the spectators could only ask how high the board was placed. That is why the event took much longer only because of the difficulty of using the rack. Just changing the machine for special techniques and the regulations made the event much faster and fully objective.

The modern machine for special techniques designed by me is equipped with a specific mechanism which makes the board deflect twice, depending on the power of the kick. It is possible thanks to an especially designed head, which is small and does not present any risk of the competitor being hurt while kicking. Additionally, the head is equipped with a special set of photocells and an electronic system, which registrates how many points the competitor has got depending on the height and the power of the kick. The signal is transferred to a special digital display, which shows the height on which the board is placed and the number of points given by the machine for the technique, without any intervention of the referee.



**Fig. 1.** The modern machine for special techniques in Taekwon-do ITF / **Ryc. 1.** Nowoczesna maszyna do technik specjalnych w teakwondo ITF



**Fig. 2.** Digital display cooperating with the Machine for Special Techniques in Taekwon-do with the use of photocells / **Ryc. 2.** Elektroniczny ekran/wyświetlacz do maszyny do technik specjalnych z zastosowaniem fotokomórki



**Photo 3.** World Taekwon-do Championships 2003 Warsaw – preparation for special techniques event /  
**Fot. 3.** MŚ ITF Warszawa 2003 – przygotowanie do konkurencji technik specjalnych

The range of 130–310 cm is adequate to organize the competition of juniors and seniors (these machines were used during the World Competition in 2003 in Warsaw and during the World Competition in 2005 in Germany where they won international recognition).



**Photo 4.** World Taekwon-do Championships 2003 Warszawa – Modern machine for special techniques /  
**Fot. 4.** Techniki specjalne na opisywanej maszynie

Thanks to this solution, the whole set is innovative. The competitors are sure to have a just verdict without the referee's interference and the audience can get emotions from the rivalry among the competitors.

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All photos and figures – from the Autor.

**Słowa kluczowe: taekwondo, techniki specjalne, nowoczesne urządzenie**

### STRESZCZENIE

W taekwondo ITF rozgrywana jest konkurencja technik specjalnych. Autor przedstawia urządzenie, które jest aktualnie wykorzystywane na zawodach tej organizacji we wskazanej konkurencji.