WERNOR GUNTHOR - HIS TECHNIQUE AND TRAINING

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A short summary of the development of Werner Gunthor of Switzerland with an analysis of his technique and an outline of his double periodized training prior to the 1986 European Championships. Additional remarks on Gunthor's technique are provided by Otto Grigalka. The article is based on translated extracts from Legkaya Atletika, USSR, No.'s 5 & 7, 1988. Re-printed with permission from Modern Athlete and Coach.

Werner Gunthor's first performance at the age of 1 6 did not exactly place him among the talented. While athletes of the same age put the shot 15 to 16m, Gunthor's best was only 12.12m, which he improved a year later to 13.60m. Gunthor grew rapidly during this period, which left his muscle mass undeveloped. He took up playing volleyball and at the same time competed in several track and field events, including the high jump.

Nevertheless, at the age of 19 Gunthor set in 16.42 a new Swiss national junior record that still stands. Although he attempted with reasonable success to compete in the discus and the javelin, the shot still remained his favorite event. He reached 18.01 m in 1982 and a year later was eliminated with a 19.18m effort in the inaugural first world track and field championships in Helsinki.

The Helsinki result motivated Gunthor, who is extremely ambitious, to reorganize his training program. He adopted a preparation structure that he employs with some modifications today. The structure is based on double periodization for indoor and outdoor competition phases. A main meeting is chosen for each competition season with a pre-determined number of additional starts.

Obviously the training structure worked, as next year Gunthor eliminated Woods' world indoor mark with a 22.26m heave in Magglingen and finished second to Timmermann in the European and World Indoor Championships. It paved the way for even better performances, which included a remarkable series in pre-world titles event, where Gunthor had a series of five throws over 22m, the best landing at 22.47m. What followed was a world title and a victory over Andrei of ltaly with a final attempt of 22.23m in Rome in 1987.

Gunthor's training is based on a carefully planned specific preparation and the improvement of his technique. His coach, Egger, stresses the importance of the movements leading into the glide, responsible for the balance and the maintenance of forward movement in the circle. These two aspects, in turn, secure an optimal delivery action. Special attention also is paid to the coordinated movements of the driving (right) and the free (left) leg, particularly to

discover the heel driving action of the right leg to develop important horizontal velocity at the start of the glide.

The horizontal speed in the circle is among one of the most important aspects in technique development. It depends largely on physical capacities and the ability to place the left leg fast to the front of the circle. A fast placement of the left leg allows exploiting the reaction forces on the shot and lengthening the time forces that can be applied prior to the release through the “left leg— right shoulder” trajectory.

TRAINING SUMMARY

Gunthor’s training, discussed in this text, refers to his work prior to the 1986 European championships. It must be said right from the start that it covers a double-periodized year with two preparation and two competition phases. The preparation phases are made up from three four-week cycles in which the load is increased in the first three weeks and reduced for recovery in the fourth.

First cycle

Gunthor began the first preparation cycle on November 4 and finished on January 25. The program covered mainly general physical development and was followed by a 12-day indoor competition phase. After a restoration phase of two weeks, the second preparation cycle lasted from February 25 to May 17.

It should be noted that Egger plans competitions according to the tasks in the preparation cycles. Consequently Gunthor competed in 1986 three times indoors, but lined up in 12 meets during the summer.

The technically orientated training early in the winter takes place mainly with medicine balls. The shot is used to develop specific strength with heavier than normal implements from the standing position. Other exercises include energetic jumps in the circle from a low squat position (with and without a shot), aiming to achieve fast the delivery position.

The left leg’s fast attack to the front of the circle is here expected to assist with the balance. Attention is also given to an optimal position between the shoulder and hip axis and the position of the shot, that should be placed on the vertical line drawn from the heel of the right leg at the moment the left leg lands in the front of the circle.

The power development training has two variations, employed alternatively once a week:

- Variation 1: explosive puts and throws of varied weight shots (5 to 10kg). The exercises include overhead throws backwards and forward, rotational

throws left and right, normal puts, discus style throws. Total: 50 to 70 deliveries.

- Variation 2: Explosive puts, shot throws, standing javelin throws, and medicine ball throws (2 to 5kg). The shot throws are performed as in variation 1. The medicine ball throws from standing, kneeling, sitting and lying on the back positions.

The strength development training is based on carefully calculated intensities and volumes. Two methods are preferred — the dynamically progressive method with slowly performed exercises (load 50 to 60%) and the dynamically progressive method with fast performed exercises (load 60 to 70%). The choice and distribution of exercises has two programs:

- Program 1: Warm-up, clean, clean and jerk, shot throws over the head, fast half-squats, step-ups with the barbell.

- Program 2: Warm-up, inclined bench press, bench press, neck exercises, full front squats, snatch (5 to 10 series are used).

Strength development programs are in a weekly microcycle conducted four times

- Monday: Program 1:

- Tuesday: Program 2;

- Thursday: Program 1;

- Friday: Program 2.

Stretching exercises and jogging takes pace after each exercise series.

General physical conditioning is in the program once a week and includes circuit training. Speed development (usually 5 x 100m, stressing movement coordination), different jumping and bounding exercises to develop leg power (200 to 300 jumps) and endurance development are included once a week. Twice a week is set aside for imitation exercises with or without equipment (10 to 15 min.). These exercises to develop co-ordination are performed slowly, fast and at maximal speed and can be incorporated into the warm-up.

Second cycle

In the second four-week preparation cycle Gunthor’s training load is again progressively increased over the first three weeks and dropped in the fourth. Technical preparation is now combined with the development of specific strength and includes twice a week 60 throws of which 40% are performed with the normal weight, 50% with heavier (9 to 10kg) and 20% with lighter (5kg) implements. Technique development exercises remain unchanged from the first

cycle but strength development is reduced to once or twice a week. At the same time, the exercises are performed with a high intensity in a reduced number of repetitions. On an average the load is 70 to 85% in 8 series of 5 repetitions.

Power and speed training can be combined and takes place twice a week. Typical are 6 x 50m sprints over 3 to 4 hurdles (speed and coordination development), bounding over low hurdles against the clock, jumping up the stairs etc. (100 to 200 jumps in a single work out).

Third cycle

Technical preparation continues to be combined with the development of specific strength in the third preparation cycle (pre-competition). It is in the program two or three times a week and includes around 60 throws of which 60% are performed with the competition weight, 30% lighter and 10% heavier implements. Competitive throws for distance are included frequently. Plyometric throws, using a 7 to 15kg shot, hanging on a rope or chairs to allow a pendulum movement, have been lately included in Gunthor's training.

Pure strength training is in the third cycle reduced to once a week, using either program 1 or 2. Explosive execution of the exercises dominates the programs. The load is even higher, but the number of repetitions is drastically reduced, employing a pyramid system of 4-3-3-2-2-1-3-5. Contrast methods with 1 series of 10 repetitions (70%) + 1 series of 2 to 4 repetitions (up to 90%) repeated 3 to 4 times.

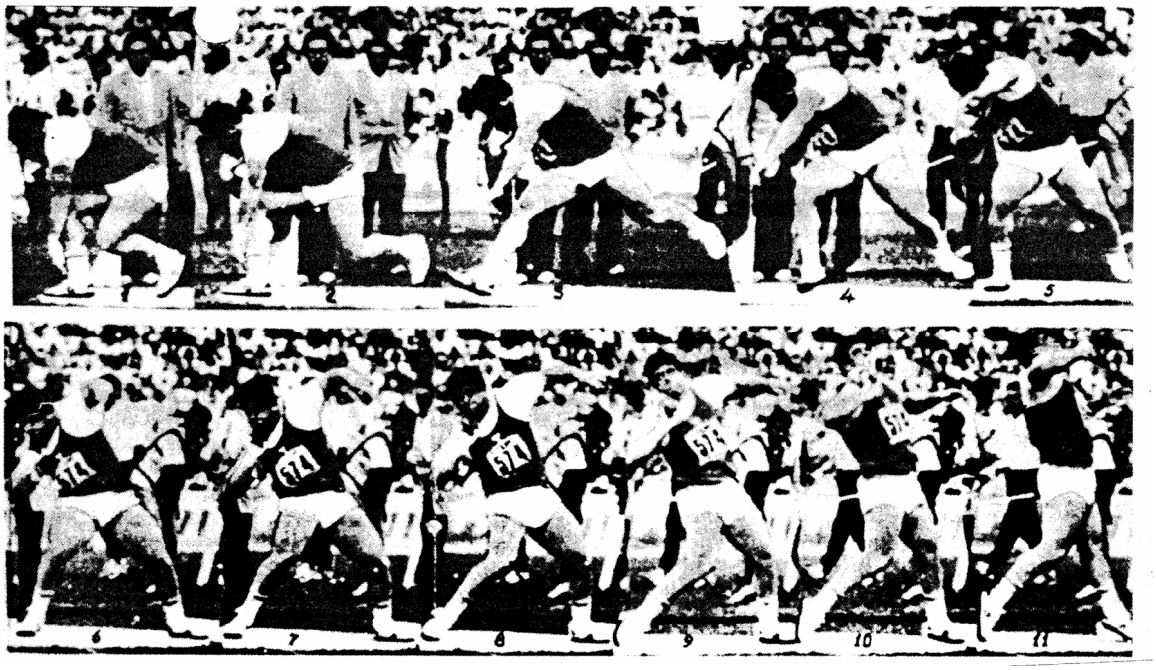
Speed and power training in this cycle includes 6 x 30m from a crouch start, runs over 3 to 4 hurdles, depth jumps and so on. The number of jumps is reduced (50 to 60) but performed with competition intensity. The remaining training means remain unchanged from the previous cycles.

Finally, an example of a restoration week's organization:

- Monday: general strength training (reduced duration and load).
- Tuesday: rest.
- Wednesday: technical preparation, games.
- Thursday: rest.
- Friday: tests for maximums in the squat, bench press, clean or snatch.
- Saturday: Shot put tests (with or without the glide), using different weight.
- Sunday: rest.

TECHNIQUE COMMENTS

Former Soviet Union's shot put champion, Otto Grigalka, analyzed techniques at the world championships in Rome. The analysis, based on high speed film sequences, appeared in Legkaya Atletika No. 7, July 1988 and is included in this text as an interesting addition to the short comments made by the previous authors on Gunthor's action.



"Gunthor was most impressive. He was the only athlete who sent the shot twice over the 22m line. Admittedly, he is well built for the task, being 2m tall and weighing 124kg. It is hard to compete with such an athlete, particularly as we can find in the film sequence that he has no great problems with his technique.

A careful study of the athlete in frame 6 makes it easy to imagine what will happen from this position of the firmly planted elastic half-bent legs and a beautifully pre-tensed left side of the back and the trunk. It is an extremely explosive position that can be automatically exploited by the thrower during his active rotation towards the throwing direction (frames 6 to 10). The legs don't straighten during this phase. On the contrary, the left leg bends even a little more before the delivery takes place.

Werner bends low in the hips at the start of the glide (frame 1) and begins it with his left leg's swing towards the throwing direction. The left leg is almost straight already in frame 2. Experts are certain to be most interested in the action represented in frames 3 to 5, because coach Alexejev once convinced Barashnikov to switch to the rotational technique. He claimed that the 2m tall Barashnikov didn't "fit" into the circle. As we can see now, the 2m tall Swiss moves freely and without difficulties in the same circle. It is achieved by

straightening the left leg to the front of the circle, followed by bringing the right leg under the body. There is no “classical hopping” movement.

Now a few words about the shot put rhythm, based in percentages of each phase from the 100% total of the time when the glide begins to the release of the shot. The rhythm of the three medalists in the 1987 world championships are presented for comparison in table 1.

Table 1: Time ratios (•) in the different phases of the shot put

ATHLETE	PHASES						
	1	2	3	4	5	6	7
GUNTHOR	22.28	35	25	0	28	12	0
ANDREI	21.88	35	17	8	28	0	12
BRENNER	21.75	42	17	13	22	4	4

1 = Distance; 2 = Singie-leg support at the start of the glide; 3 = Nc support phase; 4 = Single-leg support in the delivery position; 5 = Double-leg support in the delivery position; 6 = Single-leg support in the final delivery; 7 = Nc support in the final delivery.

As can be seen, Gunthor and Andrei supported their start of the glide on the right leg for the same duration. After that Gunthor remains unsupported for the longest time. However, this makes it possible for him to begin the delivery phase supported by both legs. Both Andrei and Brenner use 25% of their time to place first the right leg, followed by the left, before they can begin to apply force from both legs.

Gunthor remains supported on one leg during the release of the shot, while Andrei remains unsupported in the same phase. Which of the methods can be recommended? It appears that we need to analyze this problem further before an answer can be found.
Finally a few words about the trajectory of the shot during the various phases of the glide. Each athlete has here his own “signature”. Gunthor’s is close to a straight line, something this author believes to be efficient for tall athletes in order to exploit their muscular elasticity.