NSA Photosequence 18: Long Jump

Galina Chistyakova

Sequence by Helmar Hommel

The sequence shows her first and best attempt of 7.11m in the final of the Long Jump at the Games of the XXIVth Olympiad, Seoul, 1988.

Galina Chistyakova (URS)
Born: 26 July 1962
Height: 1.69m
Weight: 54 kg
Best mark: 7.52m (1988 – WR)

World Record holder Long Jump; bronze medallist in the Games of the XXIVth Olympiad, Seoul, 1988.

Commentary
Igor Ter-Ovanesian

Galina Chistyakova's approach run usually consists of 17 strides, slightly shorter than the 21-stride run-up of Heike Drechsler (GER) and the 19-stride approach of Olympic and World Champion Jackie Joyner-Kersee (USA). However, as she has very good natural speed, this does not hinder her from reaching a high velocity (9.5 m/sec. at her last stride before take-off), and in her best jumps the velocity is often even greater.

The official distance of 7.11m given for this jump differs from the 'effective' length of the jump by only 1 cm; in other words the athlete has made accurate contact with the take-off board. The sequence shows the 3 strides before take-off and the jump itself.

In photos 1-3 the athlete is moving forward rapidly. The body posture at the end of the approach is akin to that of a sprinter (3). Her movements are relaxed and free (1, 6, 7).
The preparation for take-off shows a drop of the centre of gravity of the body, resulting in a slight lowering of the position of the foot (in comparison with the middle part of the approach run).

2 strides before take-off the preparation becomes marked. This is evident in the reduction in forward lean of the body (8, 9, 10); the contact made by the lead-leg heel with the ground (12, 13); the increase of the amplitude of amortization in the lead-leg knee joint (cf. 1, 7 and 13, 14); and the lengthening of the penultimate stride compared to the usual stride length in the middle of the approach run. These are rather weak aspects of the athlete's technique. In the attempt under analysis the lengths of the last 4 strides of the approach run were 205 cm (4th), 205 cm (3rd), 216 cm (2nd), and 182 cm (last stride before take-off), and the drop in the centre of gravity at the penultimate stride was 6 cm.

On the whole the athlete is actively directing her energy forward during the last few strides of the approach; this can be seen in the dynamic action of the hips and their wide range of movement (1-9).

Photos 14-18 show the action of the lead leg. The body is leaning backward slightly when the foot touches the take-off board (18-19). This movement leads to a reduction in horizontal speed from 9.5 m/sec. to 9.3 m/sec. (at the last stride before take-off). The take-off foot makes contact with the board straight and flat (18); photos 18-20 reflect the action of the foot in the effective straightening of the hip joint. The high degree of bend in the knee joint (up to 142°) is proof of great strength.

Simultaneously with the foot plant is a significant slowing of the movement of the shoulders, which results in a slight backward lean and consequently an overemphasized upward direction at take-off. An insufficient bend of the take-off leg is evident (18, 19, 20, 21), as is the premature forward action of the shank at the moment the vertical is passed (20). It seems that this movement is an attempt to compensate for the inadequate forward speed of the whole body.

The end of the take-off is characterized by a quick, elastic straightening of the body (21, 22). During the flight phase (22-35) Chistyakova maintains a relatively good balance (27-30).

The elevated position of the feet relative to the hips (31, 32, 33) precedes landing. The weak points of the jump are an early lowering of the legs (34) and an unintentional sideways movement after landing.

On the whole this jump is not one of Galina Chistyakova's best in terms of technique, especially during the pre-take-off strides. The faults shown in the approach run result in the difference between this jump of 7.11m and her best and World Record jump of 7.52.