

NSA PHOTOSEQUENCE 17: 200 METRES - FLORENCE GRIFFITH-JOYNER

Commentary by Leo Davis

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Leo Davis is a sprints coach, consultant and specialist in kinesiology who has worked with various national teams and such famous athletes as Donald Quarrie, John Carlos, Lennox Miller and James Gilkes.

Sequence by Helmar Hommel (© Hommel AVS 1990)

The sequence shows Florence Griffith-Joyner on the home straight of the first semi-final of the 200 meters at the Games of the XXIVth Olympiad, Seoul, 1988. She won the race in a World Record of 21.56.

- Florence Griffith-Joyner (USA)
 - Born: 21 December 1961
 - Height: 1.70m
 - Weight: 59kg
 - Best marks: 100 meters - 10.49 sec. (WR)
 - 200 meters - 21.34 sec. (WR)
 - World Record holder and Olympic Champion 100 meters and 200 meters 1988.

Having completed the bend of the first semi-final of the 200 meters at the Games of the XXIVth Olympiad. Seoul, 1988, Florence Griffith-Joyner is shown in the home straight in this sequence.

1. In photo one, her left knee is flexed so that her heel almost reaches her gluteal region (this is known as 'back lift'). Her right foot plant on the track is almost flat, and her right knee is barely flexed. Her right hand is at her waist, and her body quite erect, poised for the drive.
2. The second photo finds Griffith-Joyner rolling off her right foot, flexing the right knee a little more and bringing her right arm forward bent at a right angle. In the same motion, as she has not yet achieved a high knee-lift, her well-flexed left knee is forward, in co-ordination with her right arm. Note that she maintains an erect body position throughout. The pectineal and iliopsoas muscles are not being used at this stage. Evidently only the hamstrings, quadriceps, and intrinsic muscles of her lower extremities are

- employed. Her right arm suggests a great amount of strength running, instead of running with lightness and finesse. At this point the athlete should be loose, but instead is showing a high degree of muscle tension and stress.
3. In the third photo, she has rolled on her right foot to her toes. It appears that the gluteal muscles are flexing the hip, showing her power. There seems to be a little more lordosis in the lower back due to the exaggerated force of chest and arms. The position of her left arm and her body lift is ideal for the kind of drive and body angle that she is utilizing.
 4. In the fourth photo Griffith-Joyner is shown in the recovery or flight phase. The adductors in her left thigh are very strongly delineated. Note that she has some rotation of the left foot towards the mid-line. Her stride is now opening out, and she is about to extend with full power, with the left hip and knee high and at the correct angle. Her arms are working with extra vigour, producing a true work of art, with every muscle in the upper body creating more speed. Her trail leg is the very essence of muscle strength development and energy.
 5. In the fifth photo Griffith-Joyner is still mid-way through the recovery phase - her lead leg is straightening as it sweeps forcefully down and back - and her arm appears to have reached its extreme position behind her body. The spent power of her lower right leg is quite noticeable, and the hamstring muscles are beginning to contract. Her adductors show unusual tension at a time when they should be relaxed. However, her muscles are built more for power than flexibility, and this build up in muscle tension is best seen in bend running. Whatever abnormality one may see in her biomechanics seems to be compensated by the power evident in the muscles of her upper arms, back and legs.
 6. In photo 6 the athlete is beginning to flex her right knee so that her foot is nearing her buttocks and her right leg quite relaxed. She is beginning to swing her right arm backwards. Her left leg is extending towards the track in a natural manner so that it appears to indicate a heel landing. Her arm action, at this moment, does not indicate a great deal of ballistic reaction or quick bounce of the shoulders.
 7. Photo 7 reveals a progression from the previous frame, with more flexion of the right knee and with the right arm straightening a little as it moves back. Her left foot appears to be planted flat on the track. Her arm action here indicates that her legs will dictate power, rhythm, and speed rather than be smoothly synchronized with an efficient arm action. Nevertheless, she is utilizing all the strength she can muster in order to produce an effective, personal, efficient angle of drive.

8. Here Griffith-Joyner's right heel is near her buttocks and flexion is almost complete. Her forearm is parallel to her right thigh. It appears to me that the foot of her drive leg is directly below her centre of gravity. She has to produce more power in order to compensate for any deficiency in running style.
9. In the ninth photo, her right knee is well flexed and lifted in preparation for the repetition of the running cycle. Her left foot is rolling onto the toes, and her left arm is in an aggressive and advantageous angle of efficiency (90°), swinging forward. With such an angle of the left arm, the right leg is in the desired position for launching an effective, powerful, and quick hip reaction.
10. The tenth photo shows Griffith-Joyner's characteristic high knee lift to its greatest effect, demonstrating her tremendous drive. Because of this, she should produce her best sprint stride, although the position of her right arm restricts an even more efficient driving angle.
11. In the eleventh photo, she is beginning to repeat the cycle. She appears to be leaning more towards her left side, as her head is lowered more than usual. She is not as erect as in previous frames.
12. The twelfth photo is a repetition of the sixth, but from the other side. Her arms are held at an angle of about 90° and her left leg is beginning to flex. This type of movement is now producing an elongated stride, which gives the impression of effecting a pulling action and calling on her hamstrings and gluteal muscles to do extra- heavy-duty work in order to produce the desired individual drive action.
13. Still airborne, in the thirteenth photo; her right knee is completely extended. Her right arm is starting to move forward again. The left leg is bent at about 90° and she is about to put into gear her powerful, low left hip and leg action.
14. In the fourteenth photo the right foot is slightly everted and the left foot is close to her buttocks, giving an efficient short lever.
15. In the fifteenth photo, the right foot is planted flat on the track with her right knee slightly flexed. This is the reverse of photo 8. The right arm is now level with the waist and is beginning to flex (rather late) for the forward swing. In timing with this, the left leg is being brought through well flexed. Her body weight is strongly supported by her pelvis and legs. In this frame the athlete shows a moment of relaxation as she realizes the race is won.



