

## **The Perfect Race - Janet Evans' 1988 400 free in Seoul**

by John Walker, USA Swimming National Team Tech. Support Staff//www.usaswimming.org

Ever wondered how great swims happen? Is it the stroke rate? The time off the blocks? The flip-turns? Check in each month as we analyze a new perfect race in swimming history, pointing out all the important factors that were critical in producing these great swims. All data and race analysis will be submitted by the USA Swimming National Team Technical Support staff.

This month's race is Janet Evans' World record-setting, gold-medal swimming the 400m free on September 22 at the 1988 Olympic Games in Seoul, South Korea, a record that has stood for 14 years.

### **Watch the Race**

Janet Evans steps onto the block in Lane 4 to compete in the Olympic final of the women's 400m freestyle. The 17-year-old from Placentia, Calif., stands 5'5" and weighs 99 lbs, but looks much smaller surrounded by rivals Heike Friedrich and Anke Mohring who approach 6 feet in height. Evans had a solid preliminary swim, but the two German swimmers look extremely strong. In the prelims, each had posted lifetime bests that approached the world record of 4:05.45 that Evans had set nine months earlier. Janet started the Games on a good note for the United States by winning the gold medal and setting an American record (4:37.76) in the 400 IM during the first night of competition. That had been the only bright spot for the American women to this point. The German women's team, lead by Kristin Otto (who would win 6 gold medals at this Games), was well on its way to the last of its five dominating Olympic team performances influenced by the infamous East German sports system.

### **The Start: An Early Lead**

As the race started, Evans grabbed a small early lead using a smooth start and fast tempo stroke with a somewhat unusual straight-arm recovery. Janet turned in 59.99 at the first 100 meters, which was a conservative .4 seconds off her world record pace. As the race progressed to 150 meters, Friedrich and Mohring hung at her shoulder, but the rest of the field fell off, unable to maintain the blistering pace set by the frontrunners. At 200 meters, Evans had expanded her lead to a body length but was still 0.6 seconds off World record pace at 2:02.14.

### **The Human Water Bug**

Evans' stroke was different from all others in the race. The recovery portion of the stroke has been described using the terms "windmill" and "water bug." Her arms move quickly over the water, but with less arm bend than traditional strokes. Her underwater the stroke is outstanding. It is extremely clean with no bubbles carried with the hands and a very high elbow position at entry. Body rotation starts quickly after the hand entry is initiated by a strong downbeat of the kick on the opposite side of the body from the arm stroke. She uses a two-beat kick throughout the race, driving rotation and balancing her head, which moves up and forward when she breathes. Her hand accelerates all the way through the pulling pattern with fingertips pointed at the bottom of the pool through the finish.

### **Head-to-Head**

At 300 meters, Mohring had fallen back to accept the bronze medal, but Friedrich had increased her kick and erased Janet's lead. They turned together .6 seconds under World record pace, with Evans clinging to a small lead of .16 seconds. The crowd erupted, realizing that they were seeing an outstanding head-to-head battle and anticipated an upset, as Friedrich was one of the greatest finishers in the history of the race. Evans quickly responded to the challenge, using the wall to change gears and explode into the last 100 meters. Her tempo increased significantly and she began to move steadily ahead of the German. She was not only holding off Friedrich, but also pulling away!

## Break it Down

Evans used a series of impressive racing strategies in the last half of this race. In the first 200 meters she swam in the middle of the lane breathing on the right for 5 or 6 cycles then switching to the left to see her competitors on both sides of the pool. At 200 meters, she moved from the center of the lane to the side closer to Friedrich. This allowed her to stay in contact with her closest competitor in Lane 2 and reduced the ability of Mohrig — who is falling back in the lane next to her — to be aided by drafting.

At 250 meters, she changes her breathing pattern to the side that Friedrich is on and for the remainder of the race breaths only twice to the other side off of each turn to make sure that Mohrig had not made a move back into the race for the gold.

She also changes speed (increases her tempo) right off of the turn, which takes less energy than making the same move in the middle of the pool and takes advantage of a "soft" turn by Friedrich at 300 meters. Knowing that her stroke is driven by tempo, Evans held the two beat kick and slipped into a pattern of six cycles, breathing every three cycles and three cycles with no breath to balance her rotation and maintain the fast turnover that is often lost during the extra time it takes to breathe.

Accelerating through the final 50 meters, Evans touched the wall a body length ahead of Friedrich to claim her second gold medal of the Games. (She would go on to win a third gold in the 800 Free). The world's best swimmer had realized a performance beyond what even she believed possible. She had set a world record for the sixth time in her young career, but it was not a typical improvement. She had destroyed her previous mark by 1.6 seconds with a time of 4:03.85. "I can't believe it! It didn't hurt! I wasn't even tired!" she yelled from the deck to her coach Bud McAllister in the stands. [Free Swimming Time: 3:37.74 (89.3 %) Time spent under water: 18.52 (7.8 %) Turns Time: 7.59 (3.1 %) Under water distance swum: 49 (12.3 %) Total Cycles taken: 196.5]

## Negative Splits

The last half of this race is what sets it apart in history. A negative split strategy is rare at this distance, and this was the only time in her career where she used it. Evans covered the last 200 meters in 2:01.71, which was within a second of her lifetime best in the 200m free and would have qualified her for the 2000 Olympic team on the 800 free relay. Splits: (100s) 59.99-1:02.15-1:01.26-1:00.45 (200s) 2:02.14/2:01.71

## 14-Year Record

The record has stood for 14 years, and no other woman has broken 4:05 in the event. The silver medal time by Friedrich remains the 5th fastest ever and is the fastest time Evans swam against. This race stands as one of the greatest performances in swimming history, not only because the record time has stood for so many years, but also because Evans needed that perfect race to win the Olympic Gold medal.

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