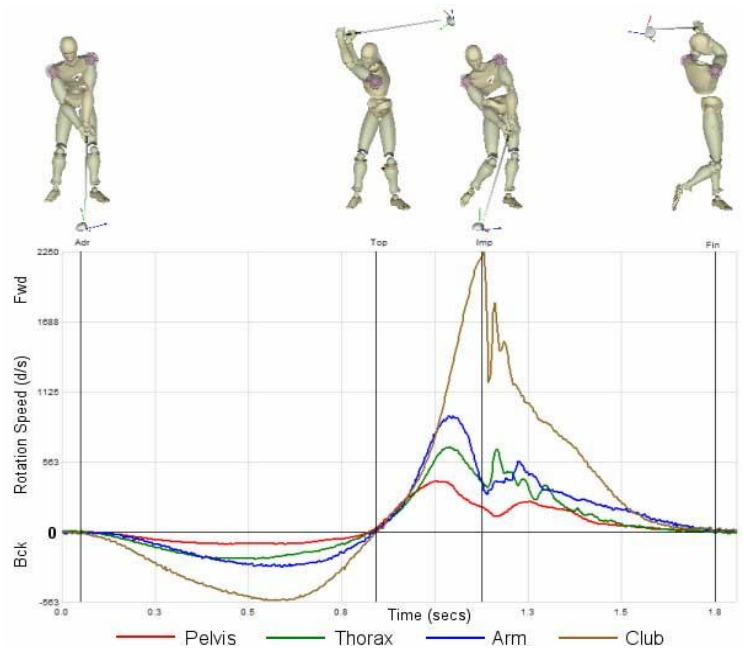


## KINEMATIC SEQUENCE

Have you ever wondered how someone such as Jim Furyk won the US Open with that golf swing? Or have you wondered how players such as Raymond Floyd or John Daly have had such successful careers with such unorthodox golf swings? Fortunately, with the aid of 3-D motion capture systems, researchers have been able to identify the true measurement of a good golf swing. The answer is not in how close your swing resembles Ernie Els or Tiger Woods on a video camera, the answer is in the efficiency of your swing compared to the



best players in the world. In other words, there are a lot of ugly golf swings on the PGA Tour but they all seem to get the job done. The question you should be asking yourself is “How can I make my golf swing get the job done?”

Using data collected from 3-D motion analysis systems; we can look at how golfers generate speed and transfer the speed or energy throughout their bodies. We have found the most efficient sequence of how they get this speed to the club head. We call this the “Kinematic Sequence”. The amazing thing is that all great ball strikers have the same kinematic sequence of generating speed and transferring speed throughout their bodies. That means if you compare Ernie Els’ kinematic sequence to Jim Furyk’s kinematic sequence, its hard to show a difference. That is a bold statement since there is an obvious difference on a video camera. All great ball strikers begin by generating speed from their lower body and transferring that speed through their torso into their arms and then into the club, What style they use to complete this signature is completely unique to each player.

The key points to know about the kinematic sequence are the following:

- 1) There is an identical sequence of speed or energy generation for all great ball strikers. That sequence is lower body first (red line on above graph), thorax second (green line), lead arm (blue line), and the club shaft (yellow line). This sequence occurs during the downswing.
- 2) Each segment of the body builds on the previous segment, increasing speed up the chain. (Red is less than green, which is less than blue, which is less than yellow.)
- 3) Each segment of the chain slows down as the next segment continues to accelerate. Think of the handle of a whip. The first thing you do is accelerate the handle of the whip to generate speed. Then you rapidly decelerate the handle to transfer speed to the next part of the whip. The same thing happens in the best ball strikers of the world. Their lower body represents the handle and the club shaft represents the end of the whip.
- 4) Unorthodox styles may have no effect on your ability to generate a good kinematic sequence. In other words, Jim Furyk and Davis Love can have the same kinematic sequence.