

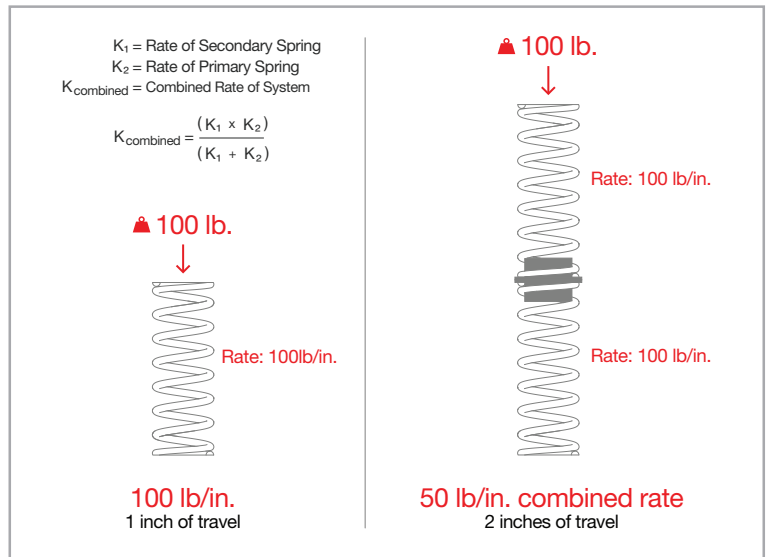


ERO | Off-Road Race Springs

Multi-Spring Systems

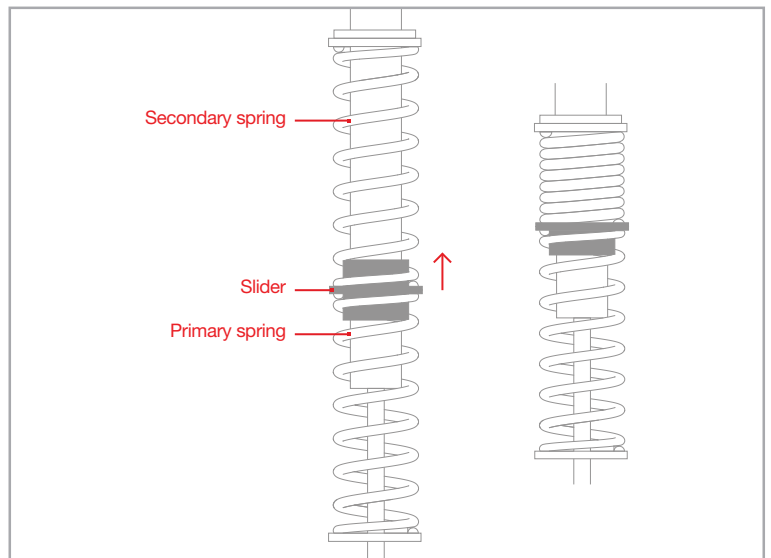
Spring rate is defined as the amount of force required to move the spring a given distance, which means a 100 lb/in spring will travel 1 inch for every 100 lb of force exerted on the spring.

In a multi-spring system, the misconception is that the first spring will carry the entire load before the second spring begins to compress. This is untrue. In the example, two 100 lb/in springs are stacked. Each spring will still move one inch for every 100 lb of force. With these factors, the combined rate of a multi-spring system can be calculated as.



Block Transition System

In a multi-rate system, the rate transition must be taken into consideration. There are two ways to achieve this transition. In the first method, the softer upper (secondary) spring is allowed to coil bind or “block”. This is the moment of transition to the primary spring's characteristics alone.



Forced Transition System

The second method is to utilize a forced transition. This is most commonly achieved with a crossover ring. The crossover ring threads on the shock body, allowing the tuner to adjust the point at which the slider (spring coupler) makes contact and stops the compression of the secondary spring.

This method is superior, as it allows the tuner to select from a vast range of transition points, creating the most efficient use of the travel.

