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RACE TECH TRIPLE RATE FORK SPRING KIT - DIRT

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INCLUDES: (2) Primary (long) Springs, (4) Secondary (short) Springs, (4) Washers, PVC (space age) Spacer Material

Race Tech Springs are made of the finest chrome silicone wire available, they are shot peened, heat-treated and individually tested to insure they are indeed the rate marked.

HOW THE TRIPLE RATE KIT WORKS

The Triple Rate Kit takes advantage of the fact that springs “in series” (stacked on top of each other) are softer than the individual springs themselves. This is convenient for tuning purposes. The primary (long) spring by itself provides the stiffest rate (0.46 kg/mm). The addition of a single secondary (short) spring makes the rate softer (0.43 kg/mm). The addition of a second short spring makes it softer still (0.40 kg/mm). This is how you get the three different rates.

PRELOAD

It is essential to set the Preload properly. Refer to “Measuring Fork Preload – Dirt”. Most application for this kit are External Top-out Type. **Typical Preload for Full Size Dirt Bikes is 3 to 5mm.**

IMPORTANT NOTE: Make sure there is always a steel washer on both ends of the spacer. The spring should never rest directly on the aluminum cap or the spacer.

Recommended Spring Rates – see [racetech.com/product search](http://racetech.com/product_search)

MEASURING FORK PRELOAD - DIRT

There are two basic types of front forks **External Top-Out** and **Internal Top-Out**.

External Top-out Type. The top-out spring is located on the outside of the damping rod tube and keeps the fork from extending too far or coming apart. Conventional (right side up) forks with damping rods are all of this type. Conventional cartridge forks can be either External or Internal Type.

To measure Preload, extend the fork completely, install the springs, washers and spacers. Set the fork cap on top of this assembly. Measure from the top of the fork tube to the sealing lip on the cap (the portion of the cap that contacts the top of the fork tube when the cap is completely installed). This is a direct measurement of Preload.

Internal Top-out Type. All inverted (upside down) forks with cartridges are kept from extending too far or coming apart with a top-out spring on the damping rod located inside the cartridge tube. To calculate the Preload, measure the Spring Free Length and subtract the Set Length.

Measuring the Set Length is best accomplished with the cartridge out of the fork, however, it can be done with the fork spring out and cap unscrewed from the outer tube but still attached to the damping rod. The Set Length is measured from the point the spring touches on the cartridge (Point X) to the point the spring touches on the cap (Point Y) with the rod fully extended. Sometimes the point the spring touches on the cap is actually a special washer or spacer. A tape measure can be put down the fork tube with the spring removed, if you are careful to make sure the tape is resting on the flange when measuring.

Internal Top-out Type forks are critical for exact preload washer location. Refer to drawing.

The spring must always be physically centered. On models with flanged washers that are exactly as pictured, spacers should never be put between the flanged washer and the cap. That would result in reduced travel.

IMPORTANT - Conventional forks with cartridges can be either of the types listed above. The key is to find out where the top-out spring is. Hold the chrome inner fork tube, with the spring out and the cap off, and extend the fork all the way until it stops. If it is an External Top-out Type, the fork will stay the same length as it is when fully assembled. If it is an Internal Top-out Type, the spring is on the inside of the cartridge tube the fork will extend longer than its assembled length.

If you have external Preload adjustment, be sure to set both adjusters the same when measuring for spacer length.

TERMS

Spring Rate - The spring stiffness measured in kg/mm or lbs/in (not the preload).

Spring Free Length - The length of the spring when it is not installed.

Spring Set Length - The installed length of the spring with the shock or forks fully extended.

Spring Preload Length - Amount the spring is compressed from it's Free Length to install it.

Spring Spacer Length - Spacer length.

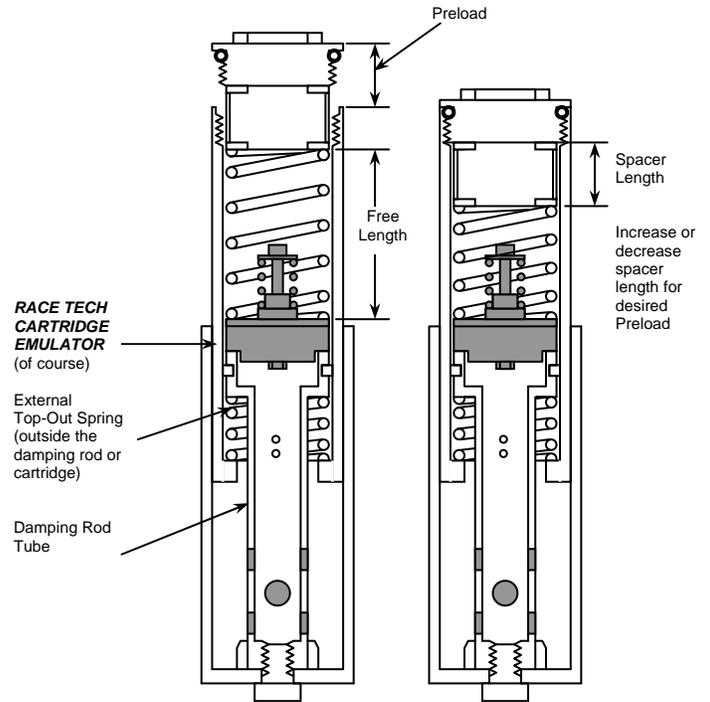
Static (Race) Sag - The amount the bike compresses from fully extended with the rider on board at full riding weight in riding position.

Free Sag - The amount the bike compresses from fully extended without the rider on board. This is important when determining correct Spring Rate.

Top-out - When the suspension extends to the limit of its travel.

Bottom-out - When the suspension compresses to the limit of its travel.

EXTERNAL TOP-OUT CONVENTIONAL DAMPING ROD FORK



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INTERNAL TOP-OUT UPSIDE DOWN CARTRIDGE FORK

