



KONI ADJUSTABLE DRAG RACING SHOCK ABSORBERS SERIES SPA1

90/10 THEORY FALLS BY WAYSIDE

The KONI SPA1 series shock absorber (for drag racing only) is a complete departure from the old "90/10" thinking which is no longer effective in modern drag race competition.

The old thinking was to allow the vehicle front end to rise quickly and stay there to promote as much weight transfer as possible to the rear wheels. This was achieved by virtually no rebound forces ("10") and a great deal of bump forces ("90"). This massive amount of bump force was supposed to hold the front suspension up to maintain that "bite."

Unfortunately the nose-in-the-air position trapped huge volumes of air which ruined any attempt at aerodynamics so E.T.s were not as good as they *could* have been.

KONI SPA1 series shocks deal with this in several ways. First, they use virtually no bump (compression) damping. Why? To allow the front-end to settle quicker, restoring the nose down attitude that is so essential for cleaner air flow. Second, the rebound (extension) forces are velocity sensitive; that is, they increase at a rate directly proportionate to piston speed.

So, what does this mean?

On a dry surface with good hookup, the amount of lift generated by initial launch is, of course, very sudden and quite violent. The velocity sensitive nature of the SPA1 reacts instantly (no magic, just good design and tuning) to *damp* this lift to avoid bogging caused by *too much* weight transfer. (Yes, you can have too much of a good thing.)

On the other end of the spectrum, a slick surface would naturally provide less lift and tire shock, so the SPA1 then allows more movement of the front end because the lack of traction initially does not lift the chassis as violently. This "gentle" impulse does not activate the higher speed circuit of the SPA1, so you end up with more front to rear weight transfer and accordingly better bite. Not only that, they have five settings that enable you to tune your chassis. For KONI rear SPA1 shocks, there is a big difference. They still have nearly zero bump (compression) damping but the rebound damping, unlike the fronts, is digressive.

Digressive?

Yes. This means they are designed to digress, or "blow off" at high piston speed. Why? Well, if you had the velocity sensitive type setting the front shocks use, it would be possible to grossly over damp the rear suspension on initial launch, thereby picking up rear wheels. The rear SPA1 KONI will "blow off" then, and allow proper "unwinding" of the rear suspension.

WARNING

KONI Series SPA1 shock absorbers are specifically for use in off highway drag race competition only. If used on public highways loss of vehicle control and consequent personal injuries may result.

