

Question: Why should our team have a shock dyno?

Answer: The short answer is simply, being able to know where your shock package is. You may have a pair of 5 valve shocks on the front of your car that you assume are identical. You will find out by testing these shocks that they are probably not the same. In some cases, not even close. Now that you know what you have, you can put them on the corners of your car to make it advantageous to what your car/driver /track needs. You may not need to go out and buy more shocks, just test what you have then put them on the corners of the car that need that valve characteristic.

Question: Is the dyno and software hard to use? I don't have very much computer experience.

Answer: No, it is extremely easy to use. Probably less than 10 minutes in most cases. The part that takes some time is loading the software. Some computers can take 15 minutes or so. We walk anyone who calls for help through the process. We have even helped via email and instant messenger at times. Whatever is easiest for the customer we can accommodate in most cases.

Question: We have the dyno up and running. We have tons of data. Now What???

Answer: Believe it or not, this is the position you want to be in. Now you can concentrate on making the car react as the driver/track needs. Without the shock data, you can't get to that step. You can only make a guess in the dark. Now you can make an educated decision! Count how many of your competitors can do that. I bet you will be surprised. You will probably discover it is the fast teams. This post is not intended for specific setup changes. This can fill volumes of books. But don't get discouraged. These small steps will lead to better lap times, if you are willing to learn. Remember that shocks are mostly used as timing devices. They either encourage or slow down chassis pitch, heave, and roll.

Question: What part of the graph, that the software generates, should I be concentrating on?

Answer: That is a very good question. Teams like to do it differently. The right answer is probably all of the graph. (0-10" a velocity or at least up to 8" V in some cases.) Let me try to simplify. 3-5" V is generally considered the handling stage. Meaning- corner entry, center, and exit. (Loosely stated here.) Most teams I have worked with really work at the 3" forces only. This seems to work well for them and it keeps the process simplified. I personally like to use an average of the 3, 4, and 5" V for my decisions. But I always take a look at the 0-3" V to make sure it is linear or digressive as needed. Smooth tracks I like linear type compression characteristics. But rough tracks I prefer digressive bump characteristics. This will become too long of a post if I keep going. But let me iterate a few things here.

- 1.) From 0-3" can be considered the "nose" of the curve. The steeper this is, the more the driver feels the shock working. Downfall of the steep nose, grip generally lessens on smooth slick tracks.
- 2.) From 3-5" is considered the handling stage in medium braking and roll. Good place to adjust for

corner entry and exit.

3.) 8" V is usually considered for pavement type cars on hard breaking, or even a drag car launching with a trans brake. My thoughts on the drag car launching, is probably more than 8". But I don't have any current data to argue it.

4.) 10 to maybe 40" or more is considered bump speeds. The pneumatic style dyno is not equipped to do these speeds. The pneumatic design starts to lose its accuracy after about 8-10" depending on the shock properties.

Question: Will the pneumatic dyno test gas charged shocks?

Answer: In most cases the answer is yes. The key here is to install a Schrader valve if the shock didn't come with one. If the shock already has one, perfect. Start by setting the gas pressure down around 30 psi or less if you can. This keeps the pressure of the gas affecting actual valve characteristics to a minimum. We are not cycling the shock very hard so aeration is probably slim to none. And then with the pause between tests, it is surely gone before the next cycle. All we want is valve characteristics not gas pressure characteristics. Gas pressure works very similar to a spring. The more gas pressure you add the more spring rate that corner of the car feels. Our goal here is to test the shocks at the same pressure every time. If you follow these guidelines, you will have good consistent readings.

Question: We have a dirt late-model and sprint team. We want to know if your dyno will test extreme tie-down shocks that we use on a regular basis?

Answer: Yes, it will test these style shocks. What you will find is that it will not pull the shock much faster than 1" per second. But the graph will clearly indicate the difference between a 9 and 10 rebound style shock and beyond. I have tested 14 rebound coded shocks with our standard 2" cylinder dyno and it yielded 250 lbs at .5" V.

To help our customers get better resolution, we have now added a larger cylinders to increase the dyno forces. We offer our standard 2" I described earlier, a 2-1/2" that generates 491 lbs of force and a 3" that generates 707 lbs of force. Just let us know what you are looking for.