

**SNOW
TEST**

ELKA

SUSPENSION SPORT KIT

*Story and Photos by
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Elka Suspension recently released three complete shock packages aimed at three distinct types of riders; the Recreational Kit, Sport Kit, and Pro Kit. The idea was to simplify the process for customers in determining which shocks suited their needs and budget as well as to offer a bit of discount for buying a complete package all at once.

After discussing the differences between the packages with Accelerated Technologies, a well known suspension performance shop and Elka dealer in Buckhorn, Ontario, Canada, I was intrigued by the Sport Kit. This kit seemed ideal for those who enjoy spirited to aggressive riding and either weren't content with the performance of their worn-out stock shocks or simply wanted to upgrade to a product that offered more adjustability to fine-tune ride quality and handling. The package also seemed like an ideal way of upgrading value-based models to shocks that equal or exceed those found on more expensive trail performance sleds.

The Sport Kit consists of a pair of Stage 4 ski shocks, a Stage 4 rear shock, and a Stage 2 centre shock. The Stage 4 ski shocks feature rebound adjustment, low speed compression adjustment, threaded spring pre-load adjustment, and dual rate springs while the Stage 4 rear shock features rebound and low speed compression adjustment. The Stage 2 centre shock features rebound adjustment, threaded spring pre-load adjustment, and dual rate springs.

I chose a 2012 Ski-Doo MXZ TNT to use as the test sled for the Elka Sport Kit as it represents a large number of late model sleds that are due for updating as well as popular value-based models. The 2012 MXZ TNT features a 120" track around the SC-5 rear suspension, dual A-arm front suspension (commonly referred to as RAS-1), and is based on the REV-XP chassis.

Prior to ordering the Elka Sport Kit, Accelerated Technologies spent quite a bit of time with me discussing my

riding habits and tendencies, what I liked and didn't like about the stock suspension performance and handling of the 2012 MXZ TNT, what my current suspension settings were, and what my weight was. As well as being an Elka Suspension dealer, Accelerated Technologies is a suspension specialty shop so when they place the order for your shocks they are manufactured and calibrated specifically for you and how you ride your sled. Once the shocks are installed Accelerated Technologies will spend some time with you, either in person or over the phone, to help set-up the sled and achieve the handling and ride quality you want. This is a definite added value as suspension upgrades aren't a small investment and knowing how to get the best out of your new shocks ensures you'll never second guess your purchase.

Before I installed the shocks I took the TNT out for a ride and logged 275 km (171 miles) in a wide range of trails and noted my suspension settings. The



centre shock bottomed easily while the rear shock seemed to be calibrated well for how I ride and the front ski shocks, specifically the outside shock, would bottom out when cornering hard. If I added a little more preload to the front ski shocks I could reduce the bottoming but I'd notice a bit more inside ski lift as a result. These were two areas I was looking for an improvement on, if nothing else. In my opinion, this was the best handling and ride quality I could achieve with the stock shocks and springs. The sled handled well and the ride quality was good, but there was definitely room for improvement. Worth noting is that the stock HPG shocks had about 1400 km (870 miles) on them of normal trail riding since being serviced.

Once I finished noting my settings I removed the stock shocks and was ready to install the Elka Sport Kit.

These shocks appear to be top quality and certainly look the part. Prior to installing each shock I noted the factory settings, which was easy since Elka includes a card with each shock noting the initial settings after assembly. My plan was to run the Elka shocks as received and take notes prior to making any adjustments.

With the Sport Kit installed I hit the trails paying close attention to the ride quality and handling characteristics of the sled. The difference was noticeable right away, a completely different feeling sled. Both the front and rear suspensions seemed much more resistant to bottoming while still providing a comfortable ride. After the first few corners I noticed a lot of inside ski lift, though.

During that initial ride I reduced the spring pre-load on the front ski shocks to 9mm (from 15mm factory setting) to drop the front-end ride height a little and reduce inside ski lift. It definitely improved the handling but the ride height was still a little high and wasn't as flat in the corners as I wanted, but was excellent for running in the big bumps. I logged a few more km's with these settings prior to making any more adjustments so I could get a better feel for the suspension package as a whole.

What I noticed in the first couple rides was that the range of the type of riding I could do, or abuse they could take, was now much wider. In other words, it took much harder riding or much nastier bumps to find the limit of the Elka's. Not only was the Sport Kit able to be ridden much harder and absorb much bigger hits, the kit was also able to provide a comfortable and plush ride at casual trail cruising speeds. Comparing strictly to

Ski-Doo models, the range of suspension performance was now that of a TNT, an X package, and actually approaching the capability of an XRS.

After a couple more rides and getting a pretty good initial impression of the suspension kit, I pulled the sled into the garage and went about making some adjustments to get the sled dialed in for how I wanted it to ride and handle. I

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made the following adjustments;

- *Reduced the pre-load of the front ski shocks down to 1.5 mm to reduce front end ride height and get the A-arms to be closer to parallel with the ground. Note that 1.5 mm is the absolute minimum pre-load setting that can be used, 3 mm is the lowest recommended setting.*
- *Pulled up the limiter strap one hole from stock to position 3. This allowed the front of the track to touch a level surface just slightly before the rear.*
- *Reduced the pre-load of the centre shock to 10 mm from the 14 mm factory setting. This was done after the limiter strap adjustment.*

With these changes I hit the trails for more riding and evaluating. The changes made resulted in yet another difference in the handling of the sled. The TNT was much flatter in the corners and the fun factor of riding it increased significantly. I could corner much harder and faster and with more control. After trying different settings I found the factory front ski shock setting of 5 clicks from full soft for low speed compression was perfect for absorbing big hits while also reducing body roll and keeping the sled planted and flat in the corners. I ended up at 16 clicks from full out, just one more click than factory, for the rebound. The factory settings were great on the front shocks.

I eventually reduced the centre shock pre-load to 6 mm and this proved to be the ultimate set up for me. I achieved super flat cornering while being able to resist bottoming the ski shocks

in the bumps and not sacrificing ride quality.

I found the rear shock calibrations to suit my riding very well and never had an issue with it bottoming. Being able to adjust the low speed compression let me find just the right setting to handle almost all riding conditions. Perhaps the best feature here is being able to adjust the rebound of the shocks, especially the centre and rear shock. At the recommendation of Accelerated Technologies, I adjusted the rebound of the rear shock so that the rear end would return to full extension in approx. 1.5 seconds and centre shock just slightly slower. The rear shock rebound was set to half a turn in from full out while the centre shock rebound was set to 21 clicks from full out, just one click in from factory. This alone makes a noticeable difference in the performance and ride quality of the rear suspension as it allows the shocks to extend to full stroke, or close to it, prior to hitting the next bump. Once this was set up I adjusted the low speed compression depending on the type of riding I was doing and trail conditions, although, I found 17 clicks from full soft to be an ideal setting (just 5 clicks from the factory setting) and rarely changed it after a while.

I must admit the only adjustment that wasn't easy to do trail side was the rebound on both of the rear ski shocks. The centre wasn't too bad but I had to use a long flat-head screw driver and I could feel the clicks while turning the adjuster. The rear shock however has very little clearance between the shock and the track at the rebound adjuster and it can be a bit of a pain to get



any tools in there. Although it doesn't require many rotations to make a noticeable difference, you have to count the turns or rotations as the adjuster doesn't make a click that's noticeable that you can hear or feel. A 1/4 turn at a time is the trick. Once you've done it a couple times it's not so bad but it's not exactly easy. Every other adjustment is easy to do trail side though.

With the sled dialed in I found myself looking for different conditions and different types of trails during every ride to see if I could find a condition that the suspension couldn't handle. That proved to be difficult to do as I never did encounter conditions that the shocks couldn't take on. This seemingly small observation speaks volumes to the capability of the shocks. The wide

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range of trail conditions and types of riding that the shocks could handle vs. the stock TNT shocks, which are aimed moderately aggressive trail riding, was significant to say the least and made riding the sled that much more fun and enjoyable. To be honest, that's exactly the result everyone wants when upgrading their suspension.

As impressive as the improvement to the ride quality was, it was the improvement in handling, specifically the cornering that really brought stood out to me. When most riders seek out suspension upgrades it's for ride quality and performance in bumps, not to corner flatter, however the added benefit of upgrading to quality, fully adjustable ski shocks is that they allow the rider to dial in the sled to handle to their personal preference. For me, flat and precise cornering is a priority and the Stage 4 shocks allowed me to keep the front end flat and tune out excessive body roll by using the low speed compression. This seemingly small



feature can totally transform a sled from handling decent to being on rails while still soaking up the bumps. With the improved handling I began to seek out small trails with lots of tight and twisty sections as the sled could corner ridiculously easy and flat. A few times I caught myself laughing out loud in my helmet while carving through tight trails, having a blast, and totally amazed at the handling. Too much fun.

In total, I logged approx. 1600 km (1000 miles) on the Elka Sport Kit and overall, I couldn't be more satisfied or impressed with the shocks and the experience with Accelerated Technologies. The sled could be ridden in a much wider range of trail conditions while never compromising on comfort regardless of being ridden hard or casually. The improvement in handling was significant to say the least. This wasn't a bad riding or handling sled in stock form, but the difference was clear with the Sport Kit installed.

Similar packages are available for many late model performance sleds of all brands. For more information check out www.acceleratedtechnologies.ca, or in the USA contact Recreational Motorsports (www.recmotor.com)



Final Sport Kit Suspension Settings:

- Stage 4 Front Ski Shocks - pre-load 1.5mm, low speed compression at 5 clicks from full soft and rebound at 16 clicks from full out.
- Stage 2 Centre Shock - pre-load 6mm, rebound at 21 clicks from full out.
- Limiter strap - hole 3 (one tighter than stock)
- Stage 4 Rear Shock - low speed compression set at 17 clicks from full out and rebound set at 1/2 a turn from full out.
- Rear Torsion Springs - position 5 (max) with 2 3/4 in. sag.
- Coupler blocks - position 1

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