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PHOTOGRAPHY BY ALAIN ASSAD
AND COURTESY OF ELKA SUSPENSION

VISIT AT ELKA SUSPENSION



IN RECENT YEARS ATV AND SIDE BY SIDE MANUFACTURERS HAVE DEVELOPED MORE POWERFUL VEHICLES. 15 YEARS AGO NOBODY COULD HAVE PREDICTED THAT ATVS WOULD BE POWERED BY ENGINES UP TO 1000CC. POWER IS GOOD, BUT YOU MUST BE ABLE TO CONTROL IT, TAME IT, AND TO ACHIEVE THIS, THE SUSPENSION IS A VERY IMPORTANT COMPONENT. SO WE WENT FOR A VISIT AT ELKA SUSPENSION, CANADIAN MANUFACTURER OF HIGH QUALITY SHOCK ABSORBERS, RECOGNIZED WORLDWIDE FOR THE QUALITY OF ITS PRODUCTS, TO DISCOVER HOW THEY GO ABOUT CREATING THESE HIGHLY ADVANCED PERFORMANCE ENHANCING PARTS FOR US.



THE ELKA TEAM EXPLAINS HOW IMPORTANT IT IS FOR THEM TO LEARN AS MUCH AS THEY CAN ABOUT THE NEEDS OF EACH CLIENT



THE TECHNICIAN LOOKS FOR THE RIGHT SHIM STACK IN ACCORDANCE WITH THE CLIENT PROFILE

THE ELKA SUSPENSION STORY

Founded in 2000 by the Lamoureux brothers and Marc-André Kingsley, Elka was born in a garage on the South Shore of Montreal. Having realized that ATV shocks could be improved, Elka Suspension has never since ceased to be at the forefront of developing high-performance shock absorbers for ATV, side by side, and many other vehicle types. Now recognized around the world for their quality, Elka shocks have become very popular in the racing business, and the advantages they provide can benefit everyone.

CUSTOM MADE

At Elka, there is no mass production. The guideline is to produce a quality product that is adapted to each customer's needs. To be clear, their shocks are not manufactured by the hundreds and stored on shelves before being shipped. They are manufactured according to specific parameters of each customer and his or her vehicle. Martin Lamoureux, President and co-founder of Elka, tells us they made the choice of remaining in the production of personalized high quality shock absorbers, and even turned down offers to mass produce units. When you get Elka shocks for your ATV or side by side, you will feel a significant difference the first time you ride on them. Although some 4x4 ATV manufacturers are making efforts to provide vehicles with better shocks, they can't compare with Elka shocks that have been made, according to your weight, riding style, type of terrain you ride on and many other parameters.

AFTER-SALES SERVICE AT PAR WITH THE PRODUCT

Setting up shocks to their maximum potential is no simple task. It can take weeks to arrive at a correct setting, and depending on where you go with your vehicle, you may need to change the settings again. The fact that the Company has chosen to stay oriented in this personalized direction, their high-end products



FIRST STEP IS THE MAIN BODY ASSEMBLY



require them to provide after sales service, to meet the expectations of its customers. To be totally honest with you, I've had to contact Elka's Customer Service a few years ago, at a time when I was not writing articles for Quadnet.ca yet, and the Technical Service Department took time to answer all my questions and gave me very sensible advice. Everything mechanical requires maintenance, and shock absorbers are no exception to this rule. On Elka premises, everything is available in order to maintain your investment. Alain and I were quite impressed by the number of years of experience the employees here with this Company. It looks like a big family. Whenever we asked the question «how long have you worked here?» the response was 10 years, 9 years, since its inception 12 years ago. They will help you get the most out of your shocks by keeping an open communication with you, until you've reached that sweet spot, where your shocks feel perfect.

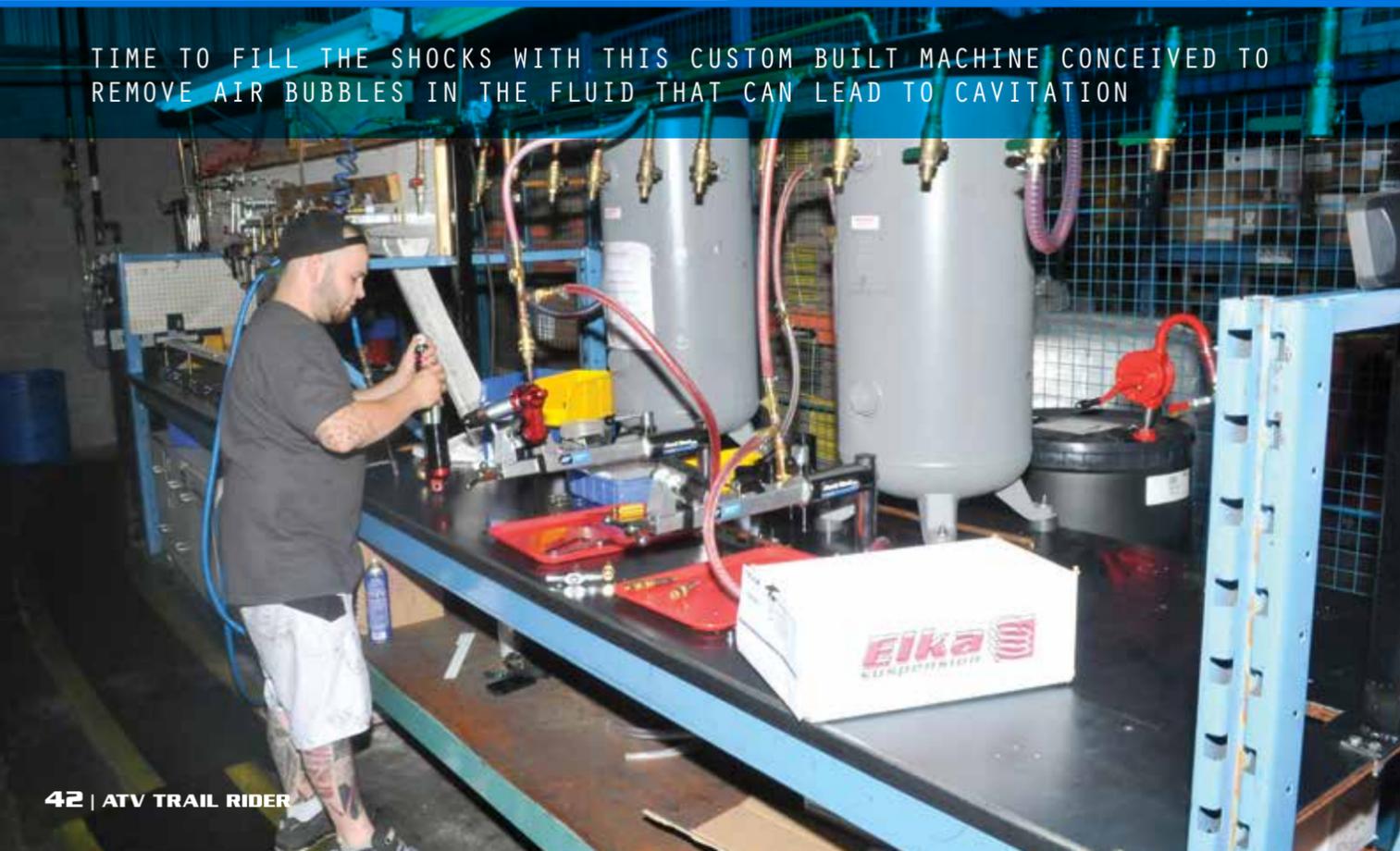
PROCESS CONTROL

We must go into details to understand how an order is processed at Elka. Not a lot of shock companies proceed in this manner. They provide you with a form to fill out. In fact, all details are taken into account, so that you get the product as perfect as possible. They include things like tire size, length of your ATV's A-arms, or changes to your engine. Springs and valves of your Elka shocks will also vary depending on your plans to race «MX», Endurance, Superquad, or even just for fun trail rides, as well as utility applications. Even for a Side x Side vehicle, many parameters are taken into account, such as added accessories like protective plates under the vehicle, which alone can add 60lbs on a vehicle. Once all the details are entered into the computer system, within 2 minutes, the list of components needed to manufacture your shocks is printed. First we must

MOUNTED SHOCKS ARE SHELVED TO GO TO QUALITY CONTROL



TIME TO FILL THE SHOCKS WITH THIS CUSTOM BUILT MACHINE CONCEIVED TO REMOVE AIR BUBBLES IN THE FLUID THAT CAN LEAD TO CAVITATION



Filler

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2013

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ATVs can be hazardous to operate. For your safety always wear a helmet, eye protection, and protective clothing. Never ride on paved surfaces or public roads. Never carry a passenger on a single rider ATV; never engage in stunt driving; riding and alcohol/drugs don't mix and could cause injury or even death. Avoid excessive speeds and be particularly careful on difficult terrain. The Arctic Cat ATV may not be ridden by anyone under 16 years of age. Arctic Cat recommends that all riders take a training course, and that they read and understand their owner's manual before operation. Along with concerned conservationists everywhere, Arctic Cat urges you to "Tread Lightly" on public and private lands. Ride only on designated areas or trails. Preserve your future riding opportunities by showing respect for the environment, local laws, and the rights of others when riding. For safety or training information in the U.S., call the ATV Safety Institute at (800) 887-2887. In Canada, see your dealer. ©2006 Arctic Cat Sales Inc., ® Trademarks of Arctic Cat Inc., Thief River Falls, MN 56701. Arctic Cat ATVs are world-class products from Arctic Cat Inc.

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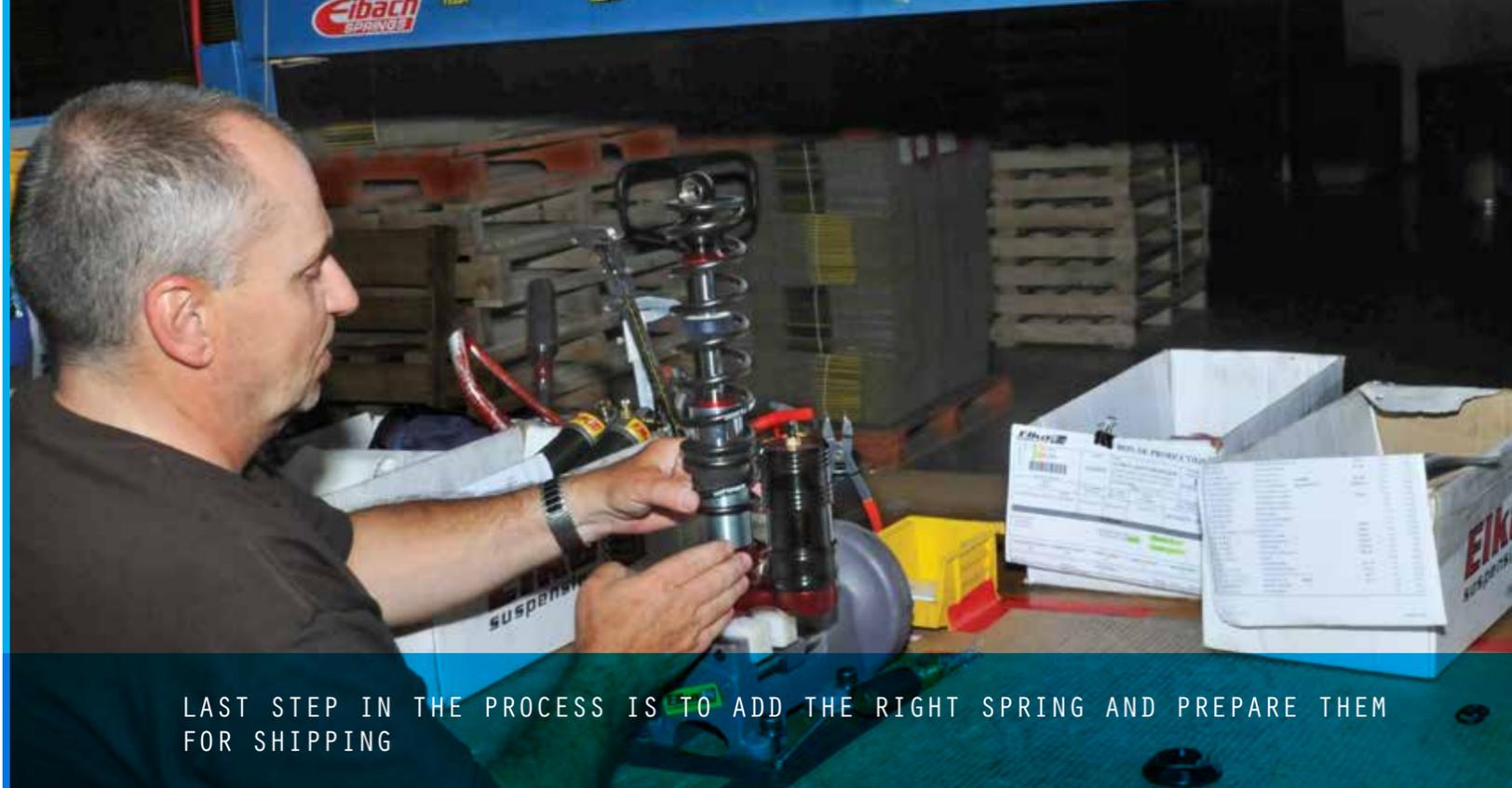
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COOP Honda Centre

bring all the pieces that will be used in the assembly of the shocks, all the parts in a storage room have been carefully inspected beforehand. The process begins with pre-assembly, putting together the base of the shock, before proceeding to steps that require more precision. We continue our tour with Marc-André Kingsley, Vice President and co-founder. He introduces us to Sebastian who has worked at Elka for 10 years. He spent 8 years as Production Manager and then joined the Research and Development Department. Sebastian has assembled many thousands of shocks during his time at this company, so his experience is used at several levels. Here there is no machine that makes the assembly, everything is done by hand. In the next section, the assembly of sub-components is done. Benoit, another expert, shows us the assembly of the high and low speed compression system. The maiden voyage of your shock does not end there. Now comes the gas-filling stage; nitrogen is used to create the effect of bounce, and this is why they are called gas shocks. The shock absorber, also called damper, is a device that controls unwanted spring motion, through a process known as dampening. Shock absorbers slow down and reduce the magnitude of vibratory motions, by turning the kinetic energy of suspension movement into heat energy that can be dissipated through hydraulic fluid. The spring really does most of the work, but precise control of how the damper functions at different points during its stroke is achieved through a stack of shims, each with different properties, used to influence the flow of fluid. Thousands of different shim stack recipes, acquired through the years mostly by trial and error, are kept in a huge binder that just keeps on growing in size as years pass. The hydraulic fluid itself is also precisely managed. Every Elka unit is filled with a machine that they designed and fabricated themselves. That machine enables the operator to flush out any microscopic air bubbles, with a twist of numerous handles in a specific sequence.

Once the shock is fully assembled, it is transported to the crucial Quality Control stage. All shocks are tested on a dynamometer before leaving the Elka Suspension premises.

The automotive world has research and development done by Formula 1 or other high-level competitions, and the same goes for Elka. Since 2005, they are associated with several off-road racing teams, in order to develop more efficient products. The advantage for any Elka client is that he/ she will benefit from all the technological advances made to be more competitive at the races. When you order an Elka Stage 5 for example, remember that the same shock, professional racers have won races with, like the Baja 1000 with.



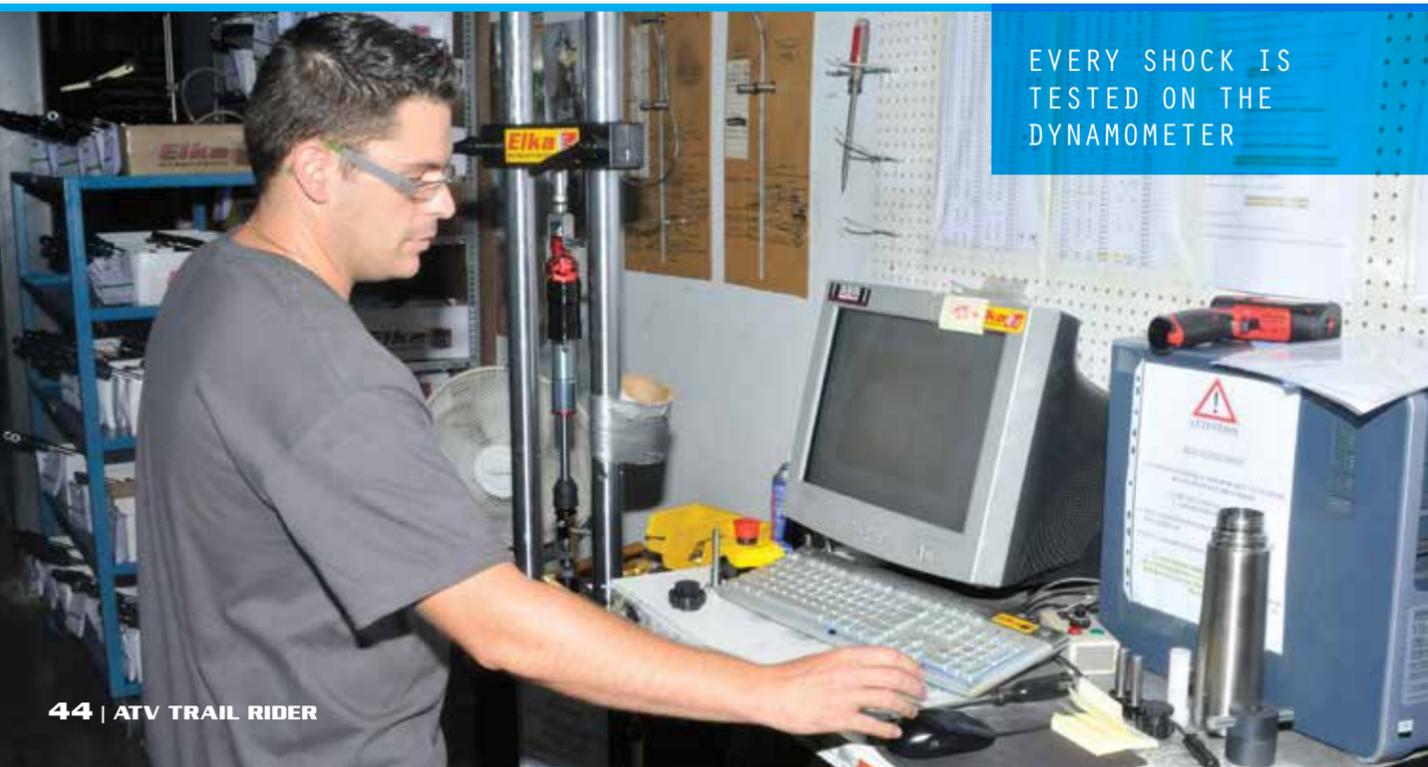
LAST STEP IN THE PROCESS IS TO ADD THE RIGHT SPRING AND PREPARE THEM FOR SHIPPING



EVERY SHOCK IS TESTED ON THE DYNAMOMETER



ONCE A SHOCK IS APPROVED BY QUALITY CONTROL IT IS ENGRAVED WITH ITS UNIQUE SERIAL NUMBER



DIFFERENT APPLICATIONS

Elka Suspension has a little over 9000 combinations or recipes as they call them; each one representing different manufacturing possibilities aimed to please the specific needs of each client. They continue to develop new applications for vehicles manufactured by universities, clients with specific requests from shocks for the Canadian Army's rapid response boat seats, to movie sets. Yes cameras also need suspension. Have you ever tried a 4x4 ATV equipped with 4 Elka shocks? The ATV Trail Rider team has done so several times; the vehicle is then totally transformed. Whether it's handling, comfort, conquering abilities, everything becomes easier, better. Even braking is improved, because the ride doesn't plunge forward as much.

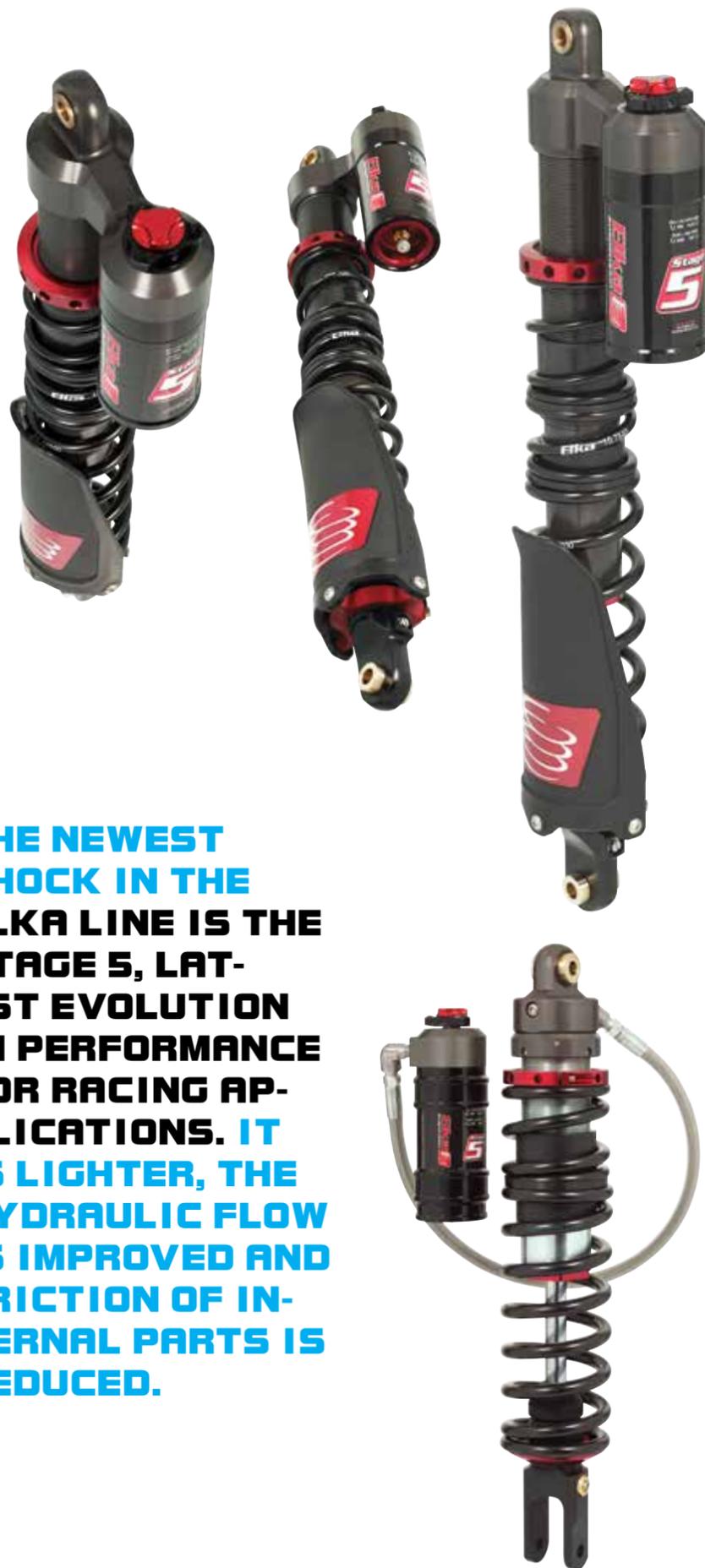
THE STAGE 5

The newest shock in the Elka line is the Stage 5, latest evolution in performance for racing applications. It is lighter, the hydraulic flow is improved and friction of internal parts is reduced. It is truly a high performance shock. Remember that everything is assembled by hand, so the production time can reach seven weeks, but once installed on your ATV; you will notice the wait to be worth it. The Stage 5 is the highest priced in the Elka range, but the quality is priceless! For those who desire improvement of comfort of their ATV or Side x Side. Elka Suspension has a huge product range to fit almost any model and budget, but if your goal is to win races, you already know that the Stage 5 shocks can make the difference.

TEST TO COME

You've seen these jewels in action in our pages before. Our King of Kings project quad from last year was wearing a set of them, and you will see them again in coming issues. Elka suspension will equip one of our Side by Side vehicles with Stage 4 shocks. We will be testing on several types of terrain, different driving styles, and we will put them to the test, just for you!

The ATV Trail Rider team wishes to thank Elka Suspension for welcoming us into their fascinating world. We were very impressed by what we saw. No doubt that these shocks are manufactured with precision, care and with quality parts. Before trying to add power to your ride, you should install Elka shocks and you will truly add performance to go anywhere, faster but safely.



THE NEWEST SHOCK IN THE ELKA LINE IS THE STAGE 5, LATEST EVOLUTION IN PERFORMANCE FOR RACING APPLICATIONS. IT IS LIGHTER, THE HYDRAULIC FLOW IS IMPROVED AND FRICTION OF INTERNAL PARTS IS REDUCED.



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