



STEPHANIE HAYS | ELMON NEWS NETWORK

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THE FIRST TIME I MET SHAN, I WAS THINKING, 'WHAT IN THE WORLD DID I GET INTO?'

**DICK TIMMONS**  
FOREMAN AT NITRO MANUFACTURING

lot of respect for him. ... There are no 'ifs' or 'buts' with him. If he wants it, he makes it. The world needs a lot of engineers like him."

Shan's ability to learn from his mistakes is a trait Timmons believes will propel his success.

"He is a sponge," Timmons said. "He is here to learn; he knows to listen and he absorbs all of it. That's what makes him so good."

Not only did Shan learn from his electrical mistakes, but he also learned from his structural ones. While the original goal was to build a motorcycle he could ride more than once, Shan also wanted a vehicle that would stand out.

"I wanted it to be unique — something that everyone would look at — but I also wanted to keep a similar shape to a regular dirt bike," Shan said. "So, I just took the basic outline of a bike and started from there."

With Timmons helping him cut parts and with Chinese and Californian companies supplying him with other materials, Shan built the latest version of his motorcycle in just over four months.

Shan's first ride experience on his new motorcycle was as special as he remembers.

"The best moment after that build was the initial ride. It's a feeling you can't get anywhere else," Shan said. "It stuck with me for hours if not days because I had built a bike through passion, and you can't just buy that feeling anywhere."

To this day, Shan can still ride that version of his electric motorcycle.

Before his pride began to fade, Shan started working on the next version. While his current version may have been a success, Shan knew it could still be improved.

"I didn't take off enough weight," Shan said. "It is pretty heavy, and it's really big. For the next bike, I have it designed smaller, which will save a lot of weight."

The weight of the motorcycle isn't the only major change.

"The next design is different. It is more futuristic, and I am a fan of that," Shan said. "It will make the bike production-ready, which helps me get one step closer to starting a business. If the build goes well and the design works out, it'll validate me and my company."

Shan's futuristic design includes a smaller and lighter frame, which will improve the motorcycle's ability to travel on paved roads and dirt trails, as well as a new motor, which will improve the vehicle's acceleration time.

According to his parents, Shan's need for improvement is just a part of his personality.

"Shan has a restless soul," Laila said. "If he is on a project and even if he hasn't finished it yet, he is already thinking about his next project and how to improve."

This restlessness is constantly at the forefront of Shan's mind.

"My mind is always running about how I can improve stuff and fix problems," Shan said. "I don't sleep a lot at night. ... I'm just up working, and even if I'm not working, I'm just sitting and thinking."

To Shan, sleeping is a luxury he is happy to sacrifice for his motorcycles.

"It's a passion. If it wasn't, I wouldn't be doing it," Shan said.



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Top: Freshman Shan Roy stands with the latest version of his electric motorcycle, "The 1.0," in his garage in Mooresville, North Carolina, March 31.

Above: Shan Roy rides his electric motorcycle on Pinnacle Lane in Mooresville, North Carolina, Feb. 25.

Right: The sketches from Shan Roy's notebook are turned digital with the help of computer-aided design (CAD) software.

Far Right: A structural analysis and buckle test simulates forces for locations on the bike in CAD to show when the frame will start to buckle.



PHOTO COURTESY OF SHAN ROY

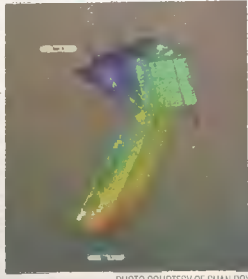


PHOTO COURTESY OF SHAN ROY

'IT'S A PASSION. IF IT WASN'T, I WOULDN'T BE DOING IT'

With his newfound confidence, Shan began the process of designing the next version of his motorcycle — one he could ride more than once.

To make his current project easier, Shan used the best resources from his first build.

"The best thing that came out of my first build were my contacts because now that I had my first bike out of the way, I knew where to go for everything," Shan said.

After spending a summer sketching new motorcycle designs, Shan decided on the one he would use as inspiration and transfer onto computer-aided design (CAD).

In order to get all the right materials for his brand-new design, Shan went to Dick Timmons, a foreman and a designer at Nitro Manufacturing whom he had met on his first build.

"Working with Nitro and Dick has always been a really good experience," Shan said. "Before any part gets cut, Dick and I will sit down and analyze it, make sure it'll be the right cut, and after, we'll sit down again and go over what I need to fix."

Timmons specializes on working with "off-the-wall" fabrications and prototyping.

"The first time I met Shan, I was thinking, 'What in the world did I get into?'" Timmons said. "But I have a