

# A Guitar Is Born



Mechanical engineering technology seniors Simon Rice and Travis Rideout show off one of the custom guitars they manufacture.



## Alum's equipment donation leads to a student business venture

**T**ravis Rideout knew what he wanted in an electric guitar. But when he couldn't find one to buy, the University of Maine mechanical engineering technology student decided to build one — from scratch.

"It initially began as an, 'I bet I could do that' idea," says the UMaine senior from Bangor, Maine. "I'd been playing guitar for 14 years and for the longest time had a vision of what I wanted in a guitar."

In fall 2008, Rideout began researching the materials, designs and techniques to build his dream guitar with a three-chamber semi-hollow body. He spent hours using what he'd learned in his mechanical engineering technology classes and UMaine's Machine Tool Lab to create computer-assisted design (CAD) drawings and to tweak equipment in his small home workshop.

"I made over a dozen test pieces — necks and bodies — out of foam and pine two-by-fours," says Rideout. "My father teased that I'd have the first foam guitar in the world."

Rideout was soon joined in the prototyping effort by Simon Rice, a mechanical engineering technology senior from Glenburn, Maine. They customized their com-

puter numeric control (CNC) equipment to build their first electric guitar using African mahogany and 5A quilted maple. Their company, TDR Guitars, sold its first \$1,500 handmade guitar in 2009. Since October, four have been sold via the company's website.

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— Scott Dunning, Director of the School of Engineering Technology

A unique feature of the instruments is the custom inlay on the fretboard. The CNC equipment precision cuts and engraves the figured pearl and wood inlays to customer specifications.

"We also offer the customer the ability to customize every feature of the guitar, from the shape and feel of the neck to the sound of the pickups we wind ourselves," says Rice.

The few pieces of the handmade guitars that aren't custom built are made in the United States.

"It's imperative to our economy that you support American companies," says Rideout. "Plus, nothing beats the quality of a handmade American guitar."

Rice and Rideout agree that their business would not have been possible if not for the hands-on learning they received in UMaine's Machine Tool Lab. In 2008, the lab was outfitted with two new CNC machines, two mechanical mills and five new precision lathes with direct readout (DRO) capabilities through a gift from alumnus Albert Pearce of Princeton, N.J. Pearce, a mechanical engineering major who graduated in 1957, specified that his \$50,000 donation be used to support the MET program.

Now there also are plans to add CNC equipment to the mechanical mills, according to School of Engineering Technology Director Scott Dunning.

"It's allowing students to gain experience with state-of-the-art machines," says Dunning. "The big thing with engineering technology is gaining that work experience. These tools are equivalent to what they're seeing in the workplace."

Rice and Rideout are now working with experts at UMaine's Foster Center for Student Innovation to develop a business plan to help them get their product off the ground.

The two plan to move their business to Virginia to be closer to the up-and-coming music scene. And they're talking with banks about a microloan to bring TDR Guitars to the next level.

"If we can survive as a business now, we will be in good shape when the economy recovers," says Rideout. ■