

**WIRED**

# Building the Guitar You'll Keep

By Chuck Squatriglia April 22, 2011 Wired Magazine

*Santa Cruz*  
GUITAR  
COMPANY

HANDMADE, HANDED DOWN.

James Nash didn't pack a guitar when he went off to college, which in hindsight was a boneheaded move.

Nash was 17 at the time and had been playing for about a dozen years. He was good. But he didn't have any plans to "do music seriously" and didn't think he'd play much while he was at school.

That didn't last. Once you've discovered you enjoy playing the guitar, you can't stop playing the guitar. It wasn't long before Nash was borrowing guitars, playing whatever he could get his hands on whenever he could get his hands on it. Somewhere along the line he picked up a cheap Japanese guitar and was happy. His father, however, was not.

Dad loved music and always had nice guitars lying around. It wouldn't do to have his son playing something that sounded like a cat in heat. He showed up one day with a Santa Cruz Guitar six-string he'd picked up secondhand. An OM, Sitka spruce and Indian rosewood. "Here," he said. "Play this."

It was perfect, with a bright, clear tone and great sound. Well, almost perfect. The neck was just a bit ... off. Not quite the right shape. No amount of adjustment would set it right. Finally, Nash walked into Santa Cruz Guitars to see what they could do.

"Let me have a look at that," company founder Richard Hoover said. Santa Cruz was — and still is — a small place, the kind of place where Hoover himself will show you around if you ask for a tour. He did everything he could think of to set that neck right, but nothing worked. So he made a new neck and installed it for free, just because.

Nash, who's 37 now, still has that guitar. He's played it at hundreds of gigs with his band, The Waybacks. And all these years later, he hasn't forgotten what Hoover did for a kid who wandered in one day looking for some help.

"You never forget something like that," Nash said. "I was a 20-year-old kid. A no one. Not even in a band. But he treated me nicely when he had absolutely no reason to, or anything to gain from it."

That's how they are at Santa Cruz No One Gets Stuck. Most of the luthiers came from other shops or right out of school, although Hoover's been known to hire guys with no experience if they're good with their hands. Alumni include guys like Bill Hardin, who went on to found Bear Creek Guitars in 1978. Hoover also has mentored young luthiers like Michael Hornick, who founded Shanti Guitars.

Everyone does everything at Santa Cruz Guitars. It isn't an

assembly-line kind of place where one guy does the same job day in, day out.

"That's not the kind of place I want to work in, and those aren't the kind of people I want to work with," Hoover said. "No one wants to be stuck in one aspect of the process."

## *Starting the Company*

Richard Hoover is a vivacious, cheerful man of 59, with horn-rimmed glasses, a thick beard and graying hair worn in a ponytail. He looks like someone who would have fallen in love with Santa Cruz as a child and vowed to move there, which is exactly what happened. He also looks like someone who could have been a cowboy in Montana, which is almost what happened.

He and his sweetheart arrived in Santa Cruz in 1972. He started repairing, then building, guitars when his beloved Martin D-28 was stolen a short time later. He had a knack for it, but was frustrated by the dearth of information about his craft.

"There was nothing written about steel-string guitars," he said. "But there was a great deal of information on violin-making."

Hoover read everything he could find about how the masters used science and art — and, to hear him explain it, not a little magic — to make wood and glue and varnish sing. The more he learned, the more he saw how much he had to learn. So he turned to other luthiers for help, figuring they could do more together than individually. After spending a few years building guitars on his own, Hoover founded Santa Cruz Guitar Co. with William Davis and Bruce Ross in 1976. Had they asked around, most people would have said they were crazy.

"We came along at the worst possible time," Hoover said with a chuckle. "The acoustic guitar was all but extinct."

It didn't help that this little company no one had heard of, from a hippie town in California, was competing against the likes of Gibson, Martin and Guild. It also didn't help that they were using wood almost no one had heard of.

## *Sustaining the Company*

The company's first guitar was a dreadnought, a large guitar with a deep body and square shoulders. Nothing unusual about that: Dreadnoughts had been popular since C.F. Martin introduced them 60 years earlier. What made the guitar unusual was it was made of koa, a wood native to Hawaii.

Why koa? Because it wasn't mahogany. Hoover preferred the sound of mahogany, but many considered it unworthy of high-end guitars.

"Rightly or wrongly, it was the blue-collar sister to rosewood," Hoover said. "Koa offered the same sound quality as mahogany but wasn't considered an 'inexpensive' or 'cheap' tonewood."

That may be, but guitarists are a picky lot, especially when it comes to matters of tone. There wasn't a whole lot of interest in what Hoover's crew was doing, or what it was selling. And then Eric Clapton called.

### **Instant Credibility**

Clapton had spotted a tiny ad Santa Cruz had placed in Frets magazine and called, asking where he might get one. Bluegrass picker Tony Rice called around the same time. Some of the players at Windham Hill Records got wind of the firm, too.

"That was instant credibility," Hoover said.

That was back in '78. Over the years, artists ranging from Johnny Cash to Elvis Costello to Gary Moore would have Hoover's crew build them guitars.

The company builds around 700 guitars a year. They aren't cheap, and never were — the first guitar cost \$900, which was a lot of scratch back then. These days a new Santa Cruz will set you back around five grand, give or take a couple of hundred. High-end stuff to be sure, which explains why most of the people playing them are people old enough to have that kind of money.

"The demographic is people my age," Hoover says. "It's always been people my age. When I was 18, I was selling to people my age. They're serious players, not necessarily professionals, people who have aspired to a Santa Cruz guitar."

"The rule is you can put up anything you want, and by the way your mother is coming in for a tour today," Hoover said with a laugh.

### **Wood Work**

Building a guitar starts with choosing the wood.

Santa Cruz uses a dizzying array of tonewoods. Bodies of rosewood, mahogany, koa, walnut, maple and sycamore. Tops of spruce and cedar. Mahogany necks, ebony fingerboards. All of the wood is reclaimed — submerged logs, downed trees, timber salvaged from old buildings — or sustainably harvested from tree plantations.

"Instruments get better with age," Hoover said. "So we cheat and start with old wood."

The wood comes from all over. Ebony from a plantation in India. Mahogany from Honduras. Maple from the Pacific Northwest. After 35 years in the business, people tend to know what Hoover is looking for and call him when

they've found it. Logs and timber are processed at one of four mills — in Italy, South America, Virginia and Washington — and the wood is shipped to Santa Cruz. Everything is seasoned for six weeks at precise temperature and humidity.

"In less than a month we can recreate years and years of seasons," Hoover said.

### **Shaping the Sound**

Getting those shapely curves isn't as tricky as you might think. A strip of wood is soaked in water, then laid over a metal form not quite scorching hot. It is clamped down tightly and left to dry for 12 to 30 minutes.

"We'll overbend it a bit so it doesn't spring back when we take it out," Hoover said.

Once the sides have been shaped, a mahogany neck block and Finnish birch tail block are installed, along with a basswood lining. Most Santa Cruz guitars have spruce tops. The blanks are tapped to get a sense of their sound and sustain, then cut to shape. Then they're shaved by hand to fine-tune the sound — a bit thinner for more bass, or thicker for more treble. The X-braces, also spruce, are cut and shaped by hand.

Once the top is installed, a binding — or purfling — is meticulously glued in place.

"It isolates the top from the sides, much like a gasket separates the speaker from the cabinet, so the top vibrates but the sides don't," Hoover said.

### **Neck and Neck**

Carving a neck takes time. A lot of time. Sixty-five percent of the necks that come out of the factory are carved by hand to each customer's request. The rest are made in a giant milling machine that can craft a neck in 17 minutes. Some might call that cheating, but the folks at Santa Cruz don't see it that way.

"I have no problem saying we're making hand-carved necks from a machine because this is a hand-carved neck perfectly copied by a machine," said Adam Rose, who runs the milling machine. "It's a combination of very traditional handwork and whatever cutting-edge tech we can afford."

Each neck is finished by hand and affixed to the body with a dovetail joint using a jig Hoover made 35 years ago. Dovetail joints provide the tonal advantage of a classical-style neck and the convenience of a bolt-on.

"It's more work, and if it wasn't way better we wouldn't do it," said Stephen Ford, shown above preparing to install a neck.

### **Finishing Up**

Santa Cruz uses nitrocellulose finishes and only nitrocellulose finishes, because it enhances the tone of the instrument, Hoover said. It also enhances the appearance, which makes it worth the three weeks it takes to apply, cure and polish the finish.

"It's super old-fashioned, super high-skill-level work," Hoover said. "We don't obscure the wood. We bring out its beauty."

A lot of that beautiful wood, like rosewood and mahogany, is getting increasingly scarce. The big manufacturers will have to start looking for alternatives eventually, but Hoover says small outfits like his won't have much trouble getting exotic tonewoods. Santa Cruz builds about 700 guitars a year, so supply isn't a problem.

"The only consideration will be the price, as these woods become more scarce," he says.

### *Guitar Mojo*

Santa Cruz calls its guitars, "the one you'll keep," and that's certainly true for Nash (pictured). He's owned a lot of guitars and played even more, but that Santa Cruz he got in college remains his favorite. It's got a bright, clear sound, not too big but with definite bite.



"I like an instrument with some bark to it," he said.

Many things come together to make a guitar sound good, and a lot of it depends upon the complex interplay of wood and steel and the way time changes an instrument. But there's something more, something indescribable. Guitarists call it mojo.

"The science only takes you so far. There's a certain amount of magic involved, and you don't believe that, well ..." Nash said, his voice trailing off. Mojo. You either get it or you don't.

Richard Hoover gets it, and Nash would swear Hoover put an extra dose of it into his guitar.

"It's not something I could ever replace," Nash says. "Richard builds beautiful guitars, but there's something special about this one. He could build me another beautiful guitar, but it wouldn't be the same. I'd love to have another Santa Cruz, or even two. But it would never replace this one."



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