



Photo/Osceola Retetoff

A ski smithing revolution in America

Mammoth Lakes 333 Skis is making some fresh tracks in the world of ski manufacturing

By Lyra Pierotti

For years, *Made in China* has been a phrase to underline the success of capitalism in its ability to find the lowest bidder and best competitor. Or, at times, it has driven a divisive debate over subjects as seemingly-diverse as patriotism, free market, humanitarianism, and environmentalism.

Examine your favorite pair of skis. Search for the *Made in* stamp, and chances are it says China.

Mine too.

But everything is, so how can we expect that to change? Why does it really matter anyway?

Early in his career, Michael Lish, founder and production manager at 333 Skis, got an up-close view of the ski manufacturing in-

dustry while setting up snowboard factories in China. The experience opened his eyes to the inefficiencies fueling our powder addiction. The high cost of transporting the skis and boards to the U.S. is offset by the low cost of labor, and the energy is supplied largely by coal and nuclear power.

But new discussions have been brewing in the American media — those of climate change, our high unemployment rate, our struggling economy. Add to this the rise of Chinese labor costs, and some manufacturers are starting to bring their factories back to the U.S.

Lish envisions a new paradigm in the world of ski manufacturing, and he started 333 Skis with the goal of creating “a profession that really celebrates sustainability, craftsmanship, and community.”

Lish grew up in Southern California, ski-

ing at resorts in the area and at Mammoth. His first passion was the mono ski, and at first he apprenticed in Idaho with Bill Bahne and Mike Doyle, now known for their work in the surf industry.

Soon, the snowboard hit the mainstream and the focus of their shaping work changed. Less inspired by the snowboard, he kept up with the mono ski and later working on the Yama Tool, a mono ski with a split tail.

It never took off.

Eventually, he began shaping skis, finding them to be more interesting and challenging to work on than a snowboard.

Later integrating his passion for ski building and sustainable design, he assembled a trailer workshop out of almost entirely reclaimed objects. From his work establishing his family’s off-the-grid homestead in Olancho, he was familiar with the creative



process of making something out of found items. For the trailer, he bought only the axle and taillights.

With the newfound freedom of a college grad with a Vanagon, a passion for climbing, and enough gas money to make it to Yosemite, Lish parked his family in the forest near Mammoth and set up building skis and contemplating the future of his business.

He was not driven to make a big profit on his skis, but rather to “produce high quality skis for a working person’s wage,” explained Kristin Broumas, business manager for 333 Skis.

He also desired to affect change in the ski manufacturing industry; to bring it back to the U.S. and train a fleet of “Ski Smiths,” a

term he coined to describe local ski builders working with simple tools, a creative mind, and skilled hands.

This led him to focus on an apprenticeship program, too, which is completely free of charge.

Lish created a set of parameters under which to guide his manufacturing process. In order to make his craft accessible to almost anyone, he wanted his machinery to be lightweight, accessible to purchase without going into debt, and easy to manage by hand. By bringing the art and craft of ski-smithing back into the hands of a human, he could build skis in a factory space smaller than some of the bigger machines found in a ski factory. Small tools means a small work

space — his entire factory can rest on one axle instead of the six inches of reinforced concrete required by an ordinary ski factory today.

In making his own space to work in, Lish avoided the cost of renting a workshop. Solar panels and a battery bank allow him to run his shop entirely off the grid. His atmospheric pressure vacuum press is faster and much more energy efficient than a traditional pneumatic ski press. And instead of using a mold, which only allows you to adjust the length of a ski and not the sidecut, he designed a special push-pull saw which is guided by computer software and translated onto adjustable aluminum rails which function as guides to shape the ski. He then

selects one of 15 aluminum cassettes, each designed to fit a certain ski length, which will put the tip and tail bend into the ski. The whole ski layer-cake is sealed into his vacuum press, and the skis begin to take shape.

The skis are cured with a propane heater set to 145°F, or on the roof on a warm day. Lish avoids the high heat curing process of big industrial productions because, while it may be faster, it warps the skis and requires that they be ground flat with big machinery. Curing at lower temperatures makes the skis come out flatter, so all you need to finish them is a store-bought, 4-inch belt sander.

All said and done, on a cloudy day, a new pair of 333 Skis for you and seven of your best friends will have consumed one gallon of fuel.

On a sunny day: one quart.

333 Skis are “the fastest in the industry from concept to manufacturing to testing,” Lish boasts. Any ski can be made in three hours, and ready to ski within 24. The skis are hardened and skiable after only an hour of curing, but they continue to harden overnight, and will be most durable if left to rest until the next day.

In 2009, when word of 333 Skis’ custom skis for \$333 got out to the online community, orders exploded and Lish found himself with a list of 500 skis to make. Every new company experiences growing pains, and Lish struggled to keep stride.

Broumas, with a B.S. in interior design and architecture, and a similar passion for skiing and sustainable design, joined Lish at 333, and an apprentice came on board. Now at a more reasonable equilibrium, cranking out about 150 pair per year, he is able to stay true to his ethic of interacting closely with his clients, and relying upon their feedback to better his product and his manufacturing process. And of course, his own avid ski habit ensures his designs are tested thoroughly.

Currently parked in Sausalito, Calif., Lish and Broumas are on the road for the fall to promote their concept, and reach out to any future ski smiths. Lish sees the future of ski manufacturing as a type of open source manufacturing, where ski smiths share their knowledge and might even participate in cooperative buying practices, placing orders for materials in bulk and distributing the goods to save on materials costs.

As the U.S. economy recovers and is forced to compete with up-and-coming developing nations, perhaps we will see a surge of interest in the Made in the USA stamp.

Already, outfits like 333 Skis have begun sprouting up all over the nation.

And maybe ... just maybe ... bigger companies will take heed.



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