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State of the Art: The North American Handmade Bicycle Show

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Experimentation with Alternative Materials: Wood & Bamboo

NAHBS is a showcase not only of classic materials and new technology, but of some interesting side paths in bicycle history, as well. Case in point: wooden frames. The approaches to building bikes with wood are as varied as the trees available. Wooden bikes occasionally fall into the "form over function" category, but the following two builders provided ride-tested examples at the 2015 show.

Sojourner Cyclery

Builder Jay Kinsinger has a perfect blend of experience and knowledge for building touring bikes: besides his Master's degree in Biomedical Engineering and teaching at Cedarville University, he began building frames in the late '70s and did the TransAmerica Trail and Northern Tier Route in the '80s, riding a steel bike he constructed himself (and wearing cutoff jean shorts, in keeping with the style of the time). But he later turned to wood for its comfortable ride feel, surprising toughness, and beauty. It helped that he already had lots of experience in woodworking. Kinsinger calls wood "the original, God-made Fiber Reinforced Polymer" (the category to which carbon fiber belongs). He tests his bikes often, and he and his son

completed a cross-country ride as well as the Underground Railroad Route on a Sojourner (sojournercyclery.com) wooden tandem.

The rough-road bike Kinsinger showed was made from black walnut with a clear finish. He explained that wooden frames are not fragile, and in fact can be maintained as you would a wooden boat, without special equipment — simply sand out any scratches, then rub oil on with a rag (he uses gunstock oil). The bike's flowing curves looked especially beautiful in wood, and instead of marveling at intricate lugs, one could drool over the perfect joinery; it even sported matching water-bottle holders.

Boo Bicycles

Boo (boobicycles.com) had a large space in the middle of the show floor with a bevy of adventure-ready bikes. This SL-G "gravel race" model signified its seriousness with frame bags attached. It was built for Dan Buettner, a member of a long-distance gravel racing team called Dirty Dog Race Pack, who intended to race it in the Trans Iowa, Oregon Outback, and other such events. Clearly this bike was not a fragile trailer queen. Boo owner Nick Frey also routinely tackles long-distance gravel

races such as the Dirty Kanza.

A closer look, and a talk with Boo's Adam Blake, revealed the science behind the frame. The bamboo main tubes are of a type called "Iron Bamboo," used to construct scaffolding in Vietnam, stronger by weight than steel but possessing ideal lateral stiffness and vibration-damping qualities due to its long, unidirectional fibers. Blake said that the bamboo frames flex in just the right way to lend stability on harsh gravel rides — a trait that is especially valuable during ultra-distance events. The bamboo stalks are hollowed and cured, then joined with carbon fiber sleeves, and a fiberglass reinforcing layer is added inside the top and down tubes to ward against gouges from flying rocks. Modern touches such as a stout rear thru-axle and disc brakes further enhance its capabilities.

NAHBS returns to Sacramento, California, for 2016. The open-to-the-public event runs February 26-28. For details visit 2016.handmadebicycleshow.com.