

For Your Game

# In search of perfection

**PURE SPECS** PROMISES THAT ANALYZING SHAFTS LEADS TO BETTER CLUBS

By **James Achenbach**

Orlando, Fla.

**A sophisticated** new machine designed to swiftly measure and analyze the construction and potential performance of any golf shaft was unveiled at the PGA Merchandise Show to the joy of many and skepticism of others.

Pure Specs is the brainchild of entrepreneur Dick Weiss, a golf fanatic and one-time senior touring pro who maintains that his machine will change the way golf clubs are made.

Weiss, 63, is not new to the golf scene. Under the banner of his company, Strategic Shaft Technologies, Weiss outlasted the U.S. Golf Association in an intellectual wrestling match 10 years ago and ultimately prevailed in what is still considered a landmark decision by the ruling body.

In effect, the USGA gave Weiss permission to implement his patented “puring” system for analyzing shafts and placing them in a consistent orientation within a set of clubs. To accomplish this in a set that already has been assembled, each shaft must be removed from its head, repositioned and reglued so that the bending characteristics are uniform from club to club.

Weiss and his licensees have “pured” significantly more than a million clubs,” according to Weiss, who holds more than 60 patents relating to shaft

alignment. Until now, all measurements were done manually with the first-generation Pure machine.

What was introduced at the show was the second-generation, fully automated Pure Specs machine. The new machine adds shaft measurements (such as straightness, torque and symmetry) that could have a huge effect on the golf industry.

“The quality of golf clubs for consumers should improve dramatically,” said Howard Butler, a consultant to Weiss and the man in charge of overseeing the design and construction of Pure Specs. “It used to take me all day to run tests and get accurate

(shaft) measurements. This machine will do all of that in 30 or 40 seconds, and the results are spot on.”

Butler left his position as vice president of research and development for shaft manufacturer True Temper in 1996 to start his own firm, Golf Science Consultants. The Pure Specs machines are built in Oak Ridge, Tenn., the site of the Manhattan Project that resulted in the development of the atomic bomb.

Feelings are intense over Weiss and his new creation.

“Any time you can analyze a shaft and gather data that helps determine the performance of that shaft for



The Strategic Shaft Technologies team (from left): Dick Weiss, Gary Sheppard, Howard Butler, Brian Adair

GOLF WEEK/TRACY WILCOX



improving ball flight, it is certainly a good thing,” said Ed Mitchell, president of Mitchell Golf, known for manufacturing high-precision machines that measure and bend golf clubs. “From an engineering point of view, it’s slick as can be. I was very encouraged.”

On the other hand, shaft manufacturers remain dubious.

“We’re open to anything that would help us make a better product,” said Dave Schnider, president of shaftmaker Fujikura. “We said to Dick, ‘Show us that a club performs better when the shaft is oriented in a certain way.’ We’ve never been able to get data that shows any change in the performance.”

Weiss disagrees, referring to a study conducted by Golf Laboratories, a San Diego club-testing firm, and published on the SST Web site ([www.sstpure.com](http://www.sstpure.com)).

“People who say it doesn’t work have a vested interest in it not working,” Weiss said. “We guarantee that pured clubs will hit the ball longer and straighter, or we will refund a person’s money (and return the shafts to their original orientation).”

Weiss has more than 60 licensees who perform the puring process using more than 70 original machines. Most are expected to switch to the new machines.

Licensees do not buy the machines. They pay an upfront fee, plus a royalty on every club that is pured. Each machine is regularly maintained and calibrated by SST.

Hot Stix, the custom clubmaker headquartered in Scottsdale, Ariz., has pured more clubs than any other licensee. At the PGA Merchandise Show, Weiss announced three new licensees – Golfworks of Newark, Ohio; Leaderboard Golf of Memphis, Tenn.; and Sellinger’s Power Golf of Roanoke, Texas.

“Our customers are very particular,” said Art Sellinger, founder of Sellinger’s Power Golf and owner of the RE/MAX World Long Drive Championship. “We absolutely want to make drivers as good as they can be made, and this is the way to do it.”

The total cost for puring can vary between \$20 and \$50 per club, depending on the quantity of clubs and whether the shaft is unattached or must be pulled from its clubhead.

It’s an unnecessary expenditure, say some shaft manufacturers.

“Our tolerances already are very tight, and I’ve never seen conclusive proof from anybody about this process,” said Robb Schikner, director of engineering for shaftmaker UST Mamiya. “Yes, there is data that looks like the plane of oscillation is very consistent, but does that truly translate into better feel and better performance for a player? I’m not a big believer in it.”

Several years ago, UST licensed the puring process for one project. Today, the list of SST licensees includes no shaft manufacturers and only one golf club manufacturer, Henry-Griffitts, which pures every club it makes.

“Most of the top 100 players (about 75 percent, actually) are doing it, so there is good reason to have it done,” said Henry-Griffitts co-founder Randy Henry. “All and all, it makes a better golf club. However, it is more time-consuming and more costly, so I don’t think there’s any way a big club manufacturer is going to do this.”

SST does not use or publicize the names of PGA Tour players, but Pdraig Harrington often has talked about sending his clubs through the puring process. Three of the four major championships in 2008 were won with pured clubs, the only exception being Trevor Immelman at the Masters.

*The Pure Specs machine spins, twists and flexes shafts to determine a particular shaft’s characteristics. Those measurements are then used to align the shaft in the clubhead, a process the company calls ‘puring.’*

Golfweek has learned through sources at Nike that Tiger Woods had his clubs checked and adjusted by SST. As revealed by Nike insiders, the company assembled a dozen sets of irons for Woods, with only two sets being pured. In blind testing, Woods picked those two pured sets as his primary set and backup set.

At the PGA Show, USGA senior technical director Dick Rugge was intrigued by the Pure Specs machine.

“Very interesting,” Rugge said. “It’s amazing how technology is being used in golf.”

According to Butler, an engineer who specialized in the design of missiles and artificial joints before concentrating full time on golf, the measurement capabilities of Pure Specs could impact the USGA as well as shaft manufacturers and clubmakers.

“Load symmetry, for example,” Butler said. “The USGA says a shaft should be the same all the way around (the shaft). With this machine, anybody can measure the symmetry in 8 or 9 seconds.

“Torsional stiffness (torque) is incredibly important. Now, for the first time, the industry is going to be able to monitor the torsional stiffness of a shaft very quickly at playing length. It can be done in 6 seconds. Some people are not going to like this, because many of the (torque) numbers printed on shafts right now are nominal, at best.”

It’s 2009, and the science of golf shafts is far removed from the arena of regular, stiff and extra stiff in which so many golfers grew up.