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Behind the Shaft: The Project X Story

In early 2008 True Temper's Product Development Team was given a monumental task: Translate the same performance characteristics of the world-renown Project X steel shaft into hybrid and wood shafts.

The Design Phase

True Temper's state of the art composite research and development facility in Mira Mesa, California is home to the engineers and technicians who develop, design and prototype some of the best composite sporting goods in the world. It was this Product Development Team that was tasked with crafting graphite shafts that would produce performance worthy of the Project X name.

"Making a graphite shaft to mimic steel performance has been tried before, never very successfully," said Don Brown, manager of product development. "It is very difficult to design a graphite shaft that can exactly match the performance of a steel shaft."

The team started by breaking Project X down to its fundamental engineering element, its relative stiffness plot (EI profile). With their proprietary design software, the engineers began modeling the first prototypes. The hyper accurate model predicts all the crucial elements of the shaft including frequency, torque and tip stiffness by performing more than one hundred thousand calculations for every change made to the design. With the first prototypes completed, it was time for testing.

Returning to the lab, the engineers had to take this already good driver shaft and make it the ultimate in spin-reducing driver shaft.

"We had a good shaft already. The feel was smooth and ball speeds were up, but we needed to optimize the tip section, without sacrificing the positive design elements we had," Brown said.

In addition to controlling the spin, the team also wanted to improve on the feel, bringing the stability of Project X steel to the graphite shafts. By including layers of fiber in a circumferential orientation, the cross section of the shaft was bolstered, providing that unique steel feel. This new prototype, with the reinforced tip and feel improvements went out for testing at a Nationwide Tour event in Fort Smith Arkansas in May of 2008.

PROJECT X

FLEX	IRON	FLIGHTED	WOOD	HYBRID
X+	7.0		7.0	7.0
X	6.5	7.0	6.5	6.5
S+	6.0	6.5	6.0	6.0
S	5.5	6.0	5.5	5.5
R+	5.0	5.5	5.0	5.0
R		5.0		

Each Project X shaft has been meticulously designed to provide unique playing characteristics, by using a specific EI profile for each shaft.

The chart above has been developed to show how each design will play compared to traditional flex ratings. Golfers should use this chart as a reference when selecting the most suitable flex of Project X for their game.

Perfecting Project X

"The Project X hybrid shafts were fantastic," said Greg Cavill, director of metals R&D and design for True Temper. "They perform just like the iron shafts and are a great fit for the player looking for Project X playability in their hybrids".

The wood shafts would need some tweaking, however. While the constant taper rate of the Project X EI did provide the smooth feel and increased ball speeds, the longer length of the driver shaft caused the spin to not be as low as needed for a shaft to bear the Project X name.

The Performance Payoff

The results were nothing short of spectacular. Within two weeks there were double digit quantities of the shaft in play, and the momentum continued into 2009. In 2010, Project X was the winningest driver shaft model on the PGA Tour and racked up significant wins worldwide, including The British Open.

Today golfers of all levels are experiencing success with Project X in their driver and hybrid clubs. For more information on fitting your members into a new Project X graphite shaft, visit **www.pxshaft.com.**