

# How Much Do You Really Know About the Shaft in Your Driver?

Conversations around golf shafts almost invariably degrade into dumpster fires of misinformation. There is unarguably a tremendous amount of confusion on the consumer side that's been willfully fomented to no small degree by manufacturers who benefit from consumer ignorance.

With a near total lack of standardization, an entire mythology has been built around unrealistic launch and spin expectations and the otherworldly benefits of *exotic* materials. In reality, there are only but so many ways for a shaft to bend, but the messaging works because so few understand the actual dynamics of the golf shaft.

Given that the shaft industry that can't even standardize around something as seemingly basic as flex, universal measurements and material disclosures aren't likely to be mandated, but the abundance of marketing malarkey routinely fed to consumers is often entirely disingenuous, and sometimes downright fraudulent.



## Like a Box of Chocolates...

If the shaft industry had a business card, it would read "*It is what it is, except when it's not.*"

Within the shaft industry, there are effectively three main categories of shafts: Aftermarket, Co-Engineered and *Made For*. While far from equal, each serves a distinct role in the marketplace.

So, what's the difference and why does it matter?

To fully understand the games being played in the shaft world, it's important to distinguish between the various classes of shafts. In speaking with a number of shaft insiders, all of whom asked that we leave their names and company affiliations off the record, we probed the underbelly of the industry and what we found frankly surprised us.

## Aftermarket Shafts



Premium or *Real Deal* aftermarket shafts showcase a shaft manufacturer's best technology, often utilize so-called *premium* materials, and are engineered to meet the expectations of touring professionals. Sold through custom fitters, dealers, and as OEM upgrades, they also carry hefty price tags which approach, and sometimes exceed, the cost of an off-the-rack driver.

As with clubheads, the manifestation of shaft technology is mostly about mitigating the *weight to strength trade-off* and the strategic blending of materials to create specific and unique bend profiles. Making a shaft stiffer isn't difficult if total weight isn't an issue, but to manufacture a shaft which is both stiffer and lighter, choice (aka costly) materials are required. This is where terms like 40T/50T high-modulus carbon fiber pre-preg join the conversation. The modulus number (in this case 40 or 50) speaks to the strength and stiffness of the graphite sheets. Those sheets are what gets wrapped around a steel mandrel to form the basic structure of a shaft.

The lighter and stronger the sheets, the more opportunity shaft designers have to manipulate and create unique bend profiles at different weights. Cheap materials simply don't allow for the creation of something like [Graphite Design's Tour AD-IZ 50X](#) – the company's first X-flex 50 gram shaft in the Tour AD line. Designers further trick out bend profiles by leveraging exotic (read: even more spendy) materials like Titanium-Nickel weave, Boron, Xylon, and Nickel plating to further modify the torque, balance point and feel of the shaft.

The majority of premium aftermarket shafts run \$250-\$400 at retail, but in some cases, prices push north of \$500. The [Mitsubishi KuroKage XT](#) (\$360), [Fujikura Speeder Evo IV series](#) (\$350), Graphite Design Tour AD (\$380), and [VA Composites Raijin](#) (\$350) serve as examples of your premium aftermarket shafts.

Thin-Ply Technology (TPT), the company behind Justin Rose's driver shaft, prices its offerings at \$700, and as some of you will recall, Matrix launched its Ozik TP HD with a sticker price of \$1000.

The economic concept in play is one of trickle-down demand. Consumers see tour usage as validation of quality and hey, if it's good enough for *insert tour player here* it's good enough for me.

The risk in purchasing an authentic aftermarket shaft isn't significant, particularly if the brand doesn't deal in *co-branded* or *made for shafts*.

## CO-ENGINEERED

[PING](#) is the only major OEM still engaged in true co-engineering of premium shafts. PING collaborates with a larger shaft OEM (e.g.,

UST, Fujikura, Mitsubishi Chemical) to prototype and produce shafts for a specific product launch. PING's Co-engineered shafts don't have the same eye-catching, sexy graphics, but strip away the paint and you'll find the same high-modulus/low resin pre-preg and advanced technology you find in aftermarket shafts.

Consider this - The co-engineered Ping Tour 65X comes with an upcharge of \$35. The Mitsubishi KuroKage TiNi (retail \$250) comes with a \$75 upcharge. The price difference can easily be chalked up to simple laws of supply and demand - not differences in materials or quality.



Arguably, PING tends to undersell the quality of its shafts – but then again, that's kind of how PING rolls. The company was the first major OEM to purchase a Fujikura ENSO; a 10-camera system capable of capturing sub-millimeter shaft and clubhead information at 2000 frames per second. ENSO allows PING (and Fujikura) to discern much more than the swing and ball flight provided by launch monitors alone.

ENSO captures how the shaft and head work in concert when swung by real golfers – not machines.

An OEM doesn't typically invest in this type of technology unless it's supremely dedicated to understanding the golf club as an entire unit, and not separate components packaged together to look like something they're probably not. Co-Engineered may not feature familiar paint and a logo you know, but stripping those meaningless things away removes the incentive to deceive. And that brings us to the scourge of the off-the-rack club market.

## **The Stock Shaft**

*It's absolutely dirty and fraudulent. It's unethical and entirely misleading to the consumer.*

When purchasing off-the-rack clubs, the shaft(s) which come standard are referred to as *stock*. Generally speaking, stock takes a one (sometimes two or three) size fits most approach, which allows less picky consumers to find something that provides a decent fit and with it, reasonable performance.

Made For shafts aren't inherently *bad* or poor-quality. In fact, in some cases, they're every bit the equal of more expensive aftermarket shafts. However, the chief problem – and the impetus for this article – is the manner in which OEMs use this category of shafts to dupe, mislead or otherwise play consumers for fools.

Speaking with a number of shaft industry insiders, there was uniform agreement that the lack of transparency is something shaft companies have used to exploit consumers – all in the name of maximizing profit. Said one source, **"It's absolutely dirty and fraudulent. It's unethical and entirely misleading to the consumer."**

As the name implies, such shafts aren't available from dealers; they're made specifically for an equipment OEM - with the "winning" shaft company in any given year being the one which can work within the confined margin requirements of the club company. It's ultimately a price point conversation – so long as the quality is good enough.

Consumers can't know what OEMs won't share and because stock shafts have no set definition or boundaries, OEMs are free to operate with as much (or little) conscience as they feel necessary.

Consider the following scenarios, all of which are in play on a daily basis inside the golf equipment industry.



**Scenario 1- The Real Deal:** In some offerings, club OEMs will use an authentic after-market shaft as its stock option. TaylorMade popularized this approach in the early 2000s with its *TP* line of metalwoods. TP shafts often carried an upcharge, and TaylorMade was fond of using proprietary graphics, but the shafts were the same as their aftermarket namesakes. Using real shafts cyclically falls in and out of favor with the club manufacturers. Last year some took what we'd describe as a step backward, but the on a positive front, there's more real deal in lineups than in year's past and most OEM's offer a menu of authentic aftermarket shafts as no charge upgrade options. Upgrade pricing is often a factor of both the exotic-ness of the shaft and the closeness of the relationship between the shaft and club manufacturers.

**Scenario 2 - "Watered Down":** In this scenario, the stock shafts often share the same name with a look similar or identical to that of the more advanced and costly aftermarket sibling. That's the bait. The switch is the stock version is made from lesser materials (40T vs. 24T

or 30T), produced with wider spec tolerances and is often higher launching and higher spinning. Often these diet versions have slightly different weights and higher torque measurements - byproducts of cheaper materials and looser tolerances that don't quite match what you'll find in the aftermarket lineup. Some manufacturers have tried to explain the discrepancies away by saying that different companies measure shafts differently, but the reality is that the specs are different because the shafts are different.



While the industry, in general, is reducing its use of made for, particularly in premium offerings, the practice hasn't been discontinued entirely.

This season, Callaway paired its industry-leading Epic driver with several stock shafts, the most common of which is the Project X HZDRUS T800. The Callaway exclusive offering is painted to look nearly identical to the HZDRUS T1100, but aesthetics aside, these shafts bear little resemblance to each other, with the launch

characteristics of the former falling well outside of how Project X describes the performance of its aftermarket HZRDUS lineup.

The T800 weighs 56-58 grams, has a mid-high torque rating, and is billed as mid launch. The T1100 is the lowest launching (and spinning shaft) in the HZDRUS line-up, isn't available below 65 grams, and has a sticker price of \$400. While you won't find the T800 listed on the Project X website, it is available in "Like New" condition for \$56-\$80 through Callaway Pre-Owned.

The T800 is made for a golfer who would never fit into an actual T1100 or likely anything else in the HZRDUS family, but the idea is for the consumer to think he's getting something close to what the pros play. No harm, no foul, right?



Callaway is far from alone in playing the *similar name, different performance* game. In recent years, Cobra has used watered down versions of Matrix, Fujikura, and MRC shafts. TaylorMade, of course,

did the TP/non-TP thing. Tour Edge currently has *made for* versions of Graphite Design shafts in its lineup and has used *made for* Matrix in the past. Wilson has used *made for* UST shafts among others, and it wasn't that long ago that Titleist was using *For Titleist* versions of popular aftermarket shafts in its lineup.

While it's rare to see less than real deal shafts in a \$500 driver, the level of deception varies between companies and releases. Nearly every OEM has engaged in similar shenanigans at one time or another, largely because, to varying degrees, everybody wins.

The majority of golfers will likely better fit into one of the weight and bend profiles offered than the model it's designed to look like, the club manufacturer widens its margins, and shaft manufacturers benefit from the volume sales. The issue isn't necessarily the quality or performance of the shaft itself; it's the purposeful deception and effort to mislead consumers that reeks of questionable ethics.

**Scenario 3 - \$300 shaft in a \$400 driver:** The math doesn't add up, but probably not for the reason you think.

Certainly, putting a shaft which comfortably sells at a premium price in a club which sells for only a couple bucks more than the shaft alone is part of the reason why Matrix finds itself buried under a mountain of financial troubles. Selling to the club OEMs for pennies on the dollar cannibalizes the value of the aftermarket shaft, which otherwise offers much more attractive margins.

That's part of the reason why many shaft brands have developed dealer-exclusive lines.

But there's an even more diabolical path to these fuzzy figures, and it goes something like this:

Acme shaft company agrees to produce shafts for the next hot driver release from Wayne Enterprises. Wayne doesn't want Acme's current top-shelf shaft. It wants something none of its competitors have. It wants next years' shaft, and it wants it at this years' prices. To produce a shaft within the agreed upon cost parameters, Acme uses a cheaper pre-preg (likely 30T, but possibly 24T) and perhaps allows for a bit more wiggle room in its tolerances. Wayne hypes the fact that its new driver has the unreleased real deal Acme shaft in its stock lineup. To continue this tale of deception and make a few extra bucks, Acme releases the EXACT and previously Wayne-exclusive, less-than-premium, shaft at a premium price and repeats a story consistent with Wayne's marketing.

Consumers believe they're buying a \$400 driver with a premium shaft or they believe they're paying fair market price for an exotic aftermarket shaft, but either way, they're wrong. They never had a chance to be right.

Acme wins. Wayne Enterprises wins. The consumer loses.

Want to win a...

*Flightscope MEVO*

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**Scenario 4: Scrape and Paint:** Sanding a finished shaft and repainting it is more cost-effective than constructing an entirely new shaft. Because market prices for pre-preg materials fluctuate, shaft

companies will purchase more material than necessary if they can lock in a favorable price. This can create excess inventory, so rather than purchase new material for its next shaft, it sands and repaints the surplus inventory with new graphics while the marketing department creates an updated tech story around the "new" model to generate fresh demand.

While our source asked that we not share specifics, there exists in at least one club manufacturer's lineup two upgrade shaft options released several years apart that differ only in their paint. One costs more than the other, but everything else, the structure, the material; they're 100% the same. Calling attention to the fact that OEM launch and spin charts are often meaningless, despite having identical profiles – despite being exactly the same shaft – the two models are shown to have different launch and spin characteristics. Who knew paint had such an impact on ball flight?

Your *new for 2017* shaft might have been manufactured in 2014. It's like reheating week-old lasagna and selling it as garden fresh.

**Scenario 5 - The Lease Special:** This may be the most underhanded and insidious of the shaft cons. Rather than making shafts within the strict cost parameters set by the equipment OEM, shaft companies sometimes elect to lease their name to the OEM. The OEM in-turn contracts with an inexpensive 3rd party manufacturer to produce the shafts. The shaft company receives a royalty in return for the use of its name, but that's the extent of its involvement with production.

The company whose name is on the shaft has no control over where or

how the shaft is made – but because the name implies some level of credibility, consumers assume a level of quality and quality control that doesn't actually exist.

On a scale of 1- buying your college term paper, this practice rates high enough to get you expelled.

All of the above illustrates exactly how much variation exists within the *made for* market. The consumer has very little insight into what he's buying. Sometimes it's nearly equivalent, sometimes it's watered down, and sometimes it's total garbage. You simply have no way of knowing.

Lest you think none of this matters, consider that some made for shafts are so poorly constructed that rotating the shaft just a few degrees can change the playing stiffness by a full flex or more - and that's assuming they don't crack when you clamp them. Good luck trying to SST PURE your way out of that.

## **WHAT'S GOOD?**



If you're going the premium route, companies which deal exclusively in aftermarket shafts are a good place to start. There aren't many in this category (Oban, VA Composites, Veylix, Accra), and with first-rate shafts come top-shelf prices.

From there, every industry insider with whom I spoke said there is a high level of trust with Mitsubishi Chemical (formerly Mitsubishi Rayon) even though it does a fair amount of business in the "made for" market. This is largely because Mitsubishi enjoys vertical integration – where it manufactures all raw materials in-house. In doing so, Mitsubishi controls every element and owns every technology involved in designing, prototyping and producing golf shafts.

Vertical integration also allows Mitsubishi to more effectively manage inventory levels and be more responsive to changes in consumer demand because it never has to wait for a 3rd party supplier.

It's the difference between owning the farm and buying your meat at

the local grocery store.

Other recognized brands (Fujikura, Aldila, Graphite Design, Project X, and UST,) all have an established presence on professional tours and produce first-class, high-performing shafts. However, each has dabbled in the "made for" game to varying degrees, which means each has been benefited from fostering some level of consumer ignorance.



## WHERE DO WE GO NOW?

Golfers may be the smartest dumb people in the world. The average golfer household income is just over \$100k/year - which is more than twice the figure for non-golfers. I'm aware income doesn't necessarily correlate to intelligence, but as a collective group, we fail to use and apply basic skills of reasoning and analysis. Vanity, lack of access to unbiased information, and questionable industry practices all contribute to this reality.

Some of that can change, while other pieces will continue to present a challenge. Advanced systems like ENSO can quantify how a shaft/head combination reacts to individual swings. Some OEMs are exploring shaft constructions to help promote (or correct) slices and hooks. PING is building algorithms to quantify how a shaft feels. The industry is progressing, but the degree to which it can will be limited until we're willing to confront some fundamental issues surrounding truth, ethics, and integrity.

If there's a moral to this story, it's the importance of working with a qualified fitter to determine an optimal shaft/head combination. Beyond that, I'd love to see a requirement that each shaft include an ingredient list – not unlike what we see in the food and beverage industry. While that's unlikely to happen, the fundamental question is this: Shouldn't consumers have a right to know what it is they're purchasing?

After all, transparency only hurts those with something to hide.