

## **Rogue Fairways & Hybrids**

***Jailbreak comes to Callaway Fairway Woods and Hybrids for the very first time with the launch of the Rogue family of products and Vice President of Research and Development, Dr. Alan Hocknell, reveals the challenges of making this happen, and performance benefits golfers will enjoy...***

### **What were the challenges of bringing Jailbreak to Rogue Fairways and Hybrids?**

Putting Jailbreak into fairway woods and hybrids for the first time is a very big positive, but that clear performance advantage was not obvious at the beginning of the R&D process. It was not simply a 'cut-and-paste' from the Epic Driver to fairway and hybrid.

There are key performance differences between fairways and hybrids, compared to a driver, and these elements had to be researched thoroughly to see if Jailbreak would actually work in products with essentially smaller heads and faces.

We also had to consider how Jailbreak might work in a steel casting that already boasted Face Cup Technology, a much shallower face height, and a very different front to back aspect ratio.

For Jailbreak to work in anything other than a driver was a huge design challenge especially when you also consider that the common impact location in a fairway wood and a hybrid tends to be lower on the face – not out of the centre, like a driver, and the clubs also make contact with the ground, another key variable.

### **Is it hourglass Jailbreak in the fairways and hybrids?**

No, the Jailbreak rods in the fairway woods and hybrids are cast into the head during the manufacturing process, therefore they are steel and not titanium, like in the drivers. The rods are straight, not hourglass, but they are optimised at 3mm in diameter – the same as the thinnest point in the hourglass design of the driver. There was no performance or obvious weight-saving benefit to use an hourglass design.

### **Is the Jailbreak effect as prominent in smaller heads?**

Because we position a steel Internal Standing Wave behind the face in both the Rogue Fairways and Hybrids (an area that is already locally very stiff), the starting point from whether Jailbreak would actually be effective was quite different.

We had to undertake some detailed analysis of the stiffness effect we wanted to create vertically, without doing any damage to the performance of the Hyper Speed Face Cup, still the best ball speed creating technology in the market for a fairway wood and hybrid (*Note: Callaway is already the #1 Selling brand in both categories and has the #1 model in Epic*).

The 'Jailbreak effect' is not as prominent as in the Rogue Driver (we would not expect it to be), but it is still very positive in that we generate increased ball speed and are able to re-configure how the golf ball flies.

Rogue Fairways and Hybrids launch higher without adding backspin, create a flatter overall flight and therefore convert ball speed into even more distance.

It is important to recognise that this overall distance benefit is not all being delivered because of Jailbreak alone. It is the result of Jailbreak, the thinnest Hyper Speed Face Cup we have ever produced, and the positive changes in the ball flight trajectory we have engineered.

All three parts of the recipe mix perfectly together and that is when the magic happens!

### **How would you headline the performance of standard and Sub Zero Rogue Fairway Woods?**

Both the standard Rogue Fairway Woods and the Sub Zero benefit from higher launch angles and reduced spin. However, the Sub Zero model is the one that stands out to me, from a technical perspective, because the CG is substantially further forward creating a higher launch angle without adding spin.

Our Staff Professionals that have tested Sub Zero have really grabbed hold of this and said 'Wow'. We are very hopeful a lot of Rogue Sub Zero Fairway Woods will go straight into play on Tour when they are released.

### **Why is there no adjustable hosel in either Rogue Fairway Woods or Hybrids?**

We discussed this with Callaway fitters around the world and the adjustable hosel is definitely of significant value, but this is more pronounced in the fitting of 3-woods. After that, people may not use it that frequently, possibly once to set loft.

With this insight, we decided we could put the weight saving of not having the adjustable hosel and use it to the benefit of CG location and MOI. We also acted on the insight from fitters to produce a larger number of overall fairway woods in the Rogue range and combining Standard and Sub Zero models, we effectively now have five 3-wood options, all with slightly different loft and trajectory characteristics, and different lie angles.

We are tackling custom fitting by having more fixed fitting options in the range, and a lot of options in the higher lofts too, where the benefit of adjustability becomes more marginal.

We could have hosel adjustability in future models but a lot of the design philosophies in Rogue have been driven by insight and feedback from green grass outlets, and hosel adjustability wasn't top of the list in terms of requirements.

### **Why are the shapes of Rogue and Rogue X Hybrids so different?**

The Standard model derives its shape from the Callaway Apex Hybrid, which is one of the better received shapes we have launched.

Even though the Apex Hybrid targets the better player it has more forgiveness in it than people expect. Rogue Standard is a slightly enlarged version of the Apex shape and is pleasing to the eye and will appeal to a large group of golfers.

It is also relatively low spinning, offers enough forgiveness to easily get a ball airborne, provides a certain degree of workability, and is very versatile from different lies.

Rogue X is unashamedly a step in the direction of a miniature fairway wood; it is what we would call a super-hybrid. Chip Brewer, our CEO, heavily influenced this product as the shape was developed with some of the insights he had applied previously in the design of very forgiving hybrids prior to joining Callaway.

The Rogue X has a larger shape and the CG in a different spot, and there is a larger surface area to hit from. Like Rogue X Irons, these hybrids are dialled for maximum distance.

They are strong lofted, they are slightly longer in the shaft, and have more of a 'bombing' trajectory characteristic if you hit them from a clean lie or off a low tee.

### **Is there a triaxial carbon crown in the Rogue Fairways and Hybrids?**

The Rogue Fairways have a triaxial carbon crown and the Rogue Hybrids do not. In fairway wood design, a lightweight crown is a big advantage in positioning the centre of gravity vertically while still allowing the head to have high levels of forgiveness. Rogue Hybrids do not have quite as large a shape or as large of a crown surface area as the fairway woods so triaxial carbon is not as big of an advantage. Also, since the hosel is not adjustable, more of the weight is already positioned lower and more forward in this hybrid head, so the carbon crown is not really required in this hybrid design.