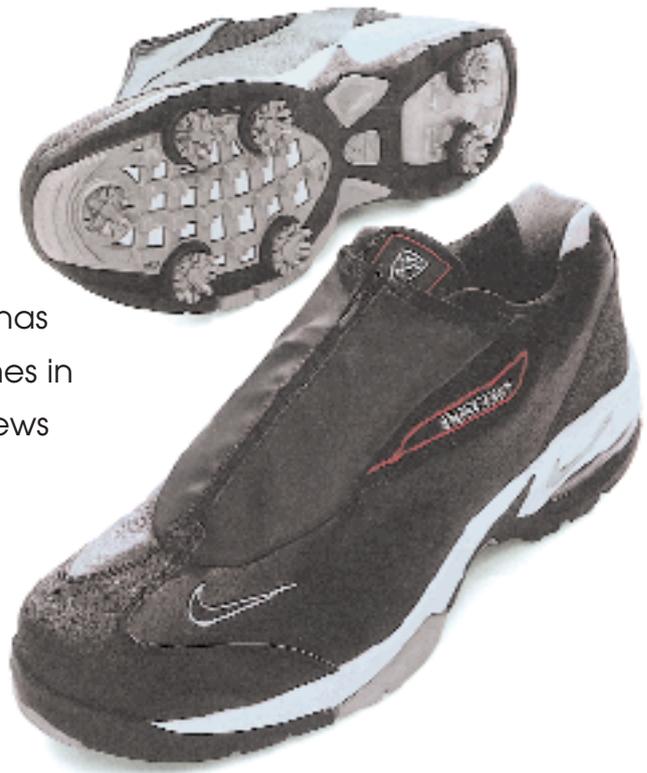




One of the major niche markets in the world of footwear is the golf market. With over 20 million regular golfers in the USA alone, it is not difficult to see why the sport has been targeted by some of the biggest names in the business. In this article, Mel Cheskin reviews the soft spike revolution as well as the latest technologies being built into fairway footwear.



From the grass roots up

Golf has traditionally been the most conservative segment of the athletic shoe industry. Throughout the innovative, biomechanical era, when most other sports were accepting new designs, new materials and improved performance, golf shoes almost defied evolution. However, when a revolution happens in golf it has to come in a more controversial way. We're referring to the 'heart and sole' of the well-heeled set - soft spikes.

Typically the development procedure for sports equipment follows a pattern: sports professionals seek better performance; inventor comes up with new design and/or new material; industry responds; testing; approval (from the sport's governing body); manufacture; marketing; result: - improved performance for the professionals - followed by the masses. But what if the end result doesn't improve performance? Soft spikes have virtually eclipsed metal spikes on golf shoes. Metal spikes have been banned in clubhouses, banned from courses, banned by the United States Golf Association (USGA) and universally supplied as standard equipment on every golf shoe brand in the world. But do they improve performance?

There is only one criterion to define performance in golf - a lower total on the score card. In order to achieve this feat, the feet have to assist the golfer to drive further, provide a better grip on the fairway, in the rough or in the sand and a more stable base on the greens. Have

soft spikes conclusively proven to better achieve these performance goals? Not according to the vast majority of the world's best golfers. Note the word best, that's not exactly the same as the most famous. Tiger Woods, David Duval and the other top PGA-ranked players are the best. They mostly play in metal spikes. Arnold Palmer, Jack Nicklaus and Greg Norman are amongst the world's most famous. The seniors mostly play in soft spikes, as do all the amateurs (it's mandatory at all USGA tournaments) and members of golf courses around the world.

How did it come to pass that most of the best golfers play metal and everyone else is forced to play plastic? How can the PGA allow metal spikes and the USGA ban them? How can a golf course ban metal spikes for everyone unless you are one of the best players in the world playing a PGA tournament on it? So, how did all this come about? Well, it obviously wasn't from the top down; it must have been from the grass roots up.

Scenario: sometime back in the 1970s, old Fred somewhere in western Pennsylvania, was complaining to old Charlie, his golf partner for the past 40 years, that his feet were killing him due to 'them damn golf spikes'. Old Charlie, a +22 handicap veteran, agreed and said he was going to play in his son's new Astro-Turf football shoes, you know, the ones with all those little rubber nubs on the bottom, 137 to be precise. Fred said he would try his old Ridell ripple-soled coaching shoes. So they did, and their feet were much more comfortable. Charlie's round was a

Golf shoes with a decidedly athletic look from Nike, using Gore-Tex zipped-up protection with low profile Champ Scorpion spikes. The large-volume heel Air-Sole unit shoe is built on an athletic last. The outsole features the company's traction - at - contact technology.



Cleats come in a variety of locking systems, some faster than others, as well as a variety of leg shapes and lengths. They are produced using injection moulded thermoplastic rubber, polyurethane or steel. Profiles vary to balance the requirements of the individual golfer in terms of grip and comfort and at the same time trying to keep green damage to a minimum. Some perform better in wet conditions than on hard dry surfaces; some have a greater propensity to stay clean during play, while others need cleaning during a round of golf to get rid of clinging grass cuttings which will reduce grip. Photograph courtesy Softspikes.

respectable +21 that day and Fred remarked that his foot didn't slip when using the golf cart pedals. The manager in the clubhouse noticed that Charlie and Fred had on their new style golf shoes and told them they didn't have to take them off like regular metal spikes because the 'soft spikes' didn't mark the floor. They didn't slip on the locker room tile floor either. The head groundsman was also happy, he noticed he didn't have to replace the odd divot on the green after Charlie and Fred played their round and, with membership increasing, that meant less damage and less work for him too. Unfortunately, however, the local golf pro, Gary (who was a par player) tried them and claimed the new soles did not give him the grip he needed when hitting his 250-yard plus drives.

Before long all the older players at the club, tried a variety of rubber soled shoes and agreed spikeless was more comfortable and they too could walk into the club's locker room without removing their shoes. The maintenance people at the club praised the new trend, and maintenance costs dropped for cleaning and repairing club floors, which pleased club owners no end. The Agrarian (the new name for groundsman) was also delighted because greens maintenance and cost were also reduced. (He did note, however, that he would have to aerate the greens more since the six millimetre metal spikes were no longer doing that job for him). Although it was against the tradition, golf shoemakers started to respond to the new 'fad', viewing it as a marketing opportunity to be pursued - so they were happy too. The pro Gary, playing in the local USGA tournament, tried to follow the spikeless trend again but scored a two over par round on his home course, which he promptly blamed on his shoes not gripping well in the wet morning dew on the tees.

With the two camps firmly supporting

arguments for using their own types of shoes namely, the traditional metal spikes for performance and the new rubber spikeless for comfort and lower club maintenance, a compromise had to be found. Interchangeable studs and spikes for varying ground conditions had been used in other sports such as soccer, American football, rugby and track and field for years. It was therefore a relatively easy step for an established metal golf spike maker such as Champ to introduce the same metal thread to fit the original receptacle with a flat moulded disc with protrusions made from polypropylene or hard rubber. Thus, the removable soft spike was born.

A range of thermoplastics

Today's soft spikes are available in a variety of thermoplastic materials, hardness and designs. The two leading manufacturers of plastic spikes are Trisport (Softspikes) from England and MacNeill Engineering (Champ) in New England. Golf course conditions vary from very dry, hard courses to very soft wet ones. Therefore, over the years, in an attempt to improve the grip but at the same time keep the soft spike characteristics, the hardness and profile offered in the design of soft spikes has evolved from hard and long to low and soft appendages. As long as the spike receptacle (locking system) is compatible, the golfer can buy and interchange designs at will. Although Champ and Softspikes offer their own brands on the market, they also make a variety of exclusive designs for brands such as Adidas, Nike, FootJoy, etc. The spikes and receptacles used to contain them are now completely injection-moulded thermoplastic, which is a composition and combination of nylon, polypropylene and or polyurethane. The new locking systems incorporate an easy-in and easy-out quarter turn



mechanism. Nike and Etonic prefer the Q-Lok system using Champ Scorpion Spikes, Adidas calls their system Z Traction using Fast Twist and FootJoy uses two lengths of plastic spikes from Softspikes which it calls Black Widow for softer ground and Shadow for hard grounds. Nike actually offers four versions of soft spikes to cover all conditions - two in thermoplastic rubber and two in polyurethane. Nike still offers a 6mm medium-flanged metal spike in their mix - they need it for the professionals.

To complete the outsole science and contain today's receptacles and spikes, golf probably has more variety of outsole materials and constructions on the market than any other sport. FootJoy alone offers the following soling materials in its 2002 range: leather, thermoplastic urethane, rubber, EVA and Graphlex (woven graphite fibre) in several constructions from welted to cement to direct injected. Adidas offers moulded rubber and a TPU/EVA midsole combination. Nike sticks with moulded TPU and rubber as outsole materials but adds various air soles and heels such as its Heel Air-Sole, Zoom Air, Visible Encap Air and Max Air. Nike also has the lightest pair of outsoles on the market, weighing in at just 6 oz. (170 gm) per pair.

In order to generate a better gripping sole, most brands, in addition to screw or twist-in spikes, add more moulded protrusions to the outsole and give them a marketing name. Adidas' version is called Z Traxion. Nike has T@C (traction at contact) and Dexter uses Duradex. Ecco, the traditional Danish shoe makers are one of the few companies offering a direct injected dual density PU sole with TPU outsole top lift. Again traditionally, although a mixture of inside heels and wedges are popular outsole designs, the outside heel, as in the originally modified dress shoe, is the most common.

Inside golf shoe technology has made great strides. The main high tech features are moisture (perspiration) management, waterproofing from the inside and form fitting foams which offer the wearer a custom fit to evenly distribute weight and pressure and eliminate hot spots inside the shoe. Branded moisture management technologies include ClimaProof, a combination of technologies favoured by Adidas, incorporating a wicking material inside to keep the foot cool and dry with Sympatex, a lightweight, ultra-thin, non-porous polyester membrane, which is both totally waterproof and breathable.

Nike incorporates a similar technology in its golf shoe line using Dri-FIT with Gore-Tex in a triple-layer system.



With adidas Z-Traxion, integrated z-shaped lugs, (shown in yellow), combine lateral and linear grip for comfort, stability and superior traction. The Fast Twist cleat changing system requires a mere quarter turn per spike.

Dri-FIT, an exclusive moisture wicking fabric from Nike, moves perspiration away from the golfer's foot while Gore-Tex waterproof membrane keeps precipitation out, so your feet stay dry and comfortable right up to the 18th.

FootJoy employs ComforTemp, the phase change material. ComforTemp DCC foam works in-shoe to keep the feet at a constant, comfortable temperature. Thermasorb microspheres within the foam absorb and release heat as needed to provide a more temperate and ultimately more comfortable in-shoe environment. Dryz is another FootJoy lining technology featuring moisture management: smart foam that draws perspiration away from the foot and stores it in a gel state for added cushioning. Dryz foam also contains ReScent and Aegis Microbe Shield odour-killing agents. Dryz technology regenerates after each use so it's always ready to go when you are. Vari-Fit from FootJoy offers a customised fit with a choice of three distinct coloured heel cradles. Each colour offers a different level of fit (snug fit-green, standard fit-black, generous fit-blue). In addition, Vari-Fit features forefoot comfort capsules for men or a Poron forefoot insert and viscoelastic gel for added heel cushioning in ladies' models. InteliGel is yet another in-shoe choice from



Italian company Nebuloni caters for custom-made golf shoes in 45 colours and variations of upper leather (including calf, patent and woven) and a choice of three soles - rubber teaching, rubber and leather with soft spikes.

FootJoy offering temperature responsive gel that moulds to the exact shape of the foot arch to provide custom support and comfort.

Etonic has introduced the new Dri-Lite AC 500 series that utilises a unique technology called eVent Fabric from BHA Technologies. eVent directly vents perspiration through its advanced waterproof/breathable membrane, allowing the shoe to breathe and the foot to remain cool. This trade-marked Direct Venting Technology is further combined with Dry System Technology, which keeps the shoe dry from the inside out. Even Sandbaggers, a fashion inspired ladies' brand offers Faytex Dri-Lex lining combined with foam to let air in and moisture out.

When it comes to uppers, only the added technology separates the major golf shoe giants Nike, FootJoy and Adidas from the traditional shoemakers such as Bally, Ecco or Nebuloni (handmade in Italy). Although athletic shoe styling has gained a foothold in the golf market, it is the traditional wing tip, cap-toe and plain-toe saddle designs that predominate. Even though they pioneered the athletic look in golf, both Adidas and the progressive Nike rarely venture far outside golf's long-time dress shoe code. One company that has successfully built a following with unconventional upper styling is Bite with its sandal, mule and slip-on clog upper looks.

The most expensive uppers (other than those made from exotic skins) are made from calfskin. Along with Nebuloni and Bally, FootJoy still make calfskin uppers, which are known for lightness and their soft feel. Calf, however, is not the most durable leather and must be waterproofed constantly to retain shape. (Shoetrees are a must for good shoe care). Most companies, including Adidas, Nike, Dexter, Etonic and FootJoy, offer the

largest number of models in their ranges made from full grain leathers. Usually the leather is specially tanned to waterproof it from the outside and may additionally be combined with a waterproof lining that makes the upper totally impermeable to water. Oily full grains, waxy pull-up and oily nubuck leathers offer natural water resistance but are not considered 'watertight' unless they are combined with a waterproof lining. Polyurethane-coated leather is another option used in mid-priced models. It is both impervious to the elements and easy to keep clean. Synthetic leathers such as Clarino and other PU-coated poromerics are very popular choices as golf shoe uppers. There are a large variety of these manmade materials on the market, from expensive waterproof versions to lower priced PCV coated substrates. Many of the leading golf shoe suppliers also offer a variety of lasts for a better choice of fittings with a few suppliers such as Lady Fairway and Sandbaggers concentrating strictly on ladies models.

Golf development has now come full cycle, from traditional styling - no added technology, to athletic styling - with added technology, to traditional styling with added technology, and back to traditional styling with traditional technology. At least that's what the best in the world use, traditionally styled shoes with metal spikes - and who plays better? 

Sandbagger's shoe construction features PU-coated leather upper, cushioned insole with shock absorbing heel cup, reinforced Texon midsole for lateral stability and a lightweight, flexible outsole. Its patented comfort construction interlocks with the sole allowing air to cushion the foot while walking the fairways.

