



Damaged grass roots, muddy trails, compacted turf and skid marks have meant that greenkeepers and Course Owners have been reluctant to allow trolley use in certain wet, wintery conditions.

For keen golfers and Course Owners the situation has been far from ideal. For older players or players with injuries, an electric trolley is the only way they can play and for many others it is a major part of their enjoyment of the game. For Owners the equation is simple. Less winter golf means less revenue and less membership retention when subs renewal time comes around.

With a basic design prototype developed Powakaddy's Group Product Manager, Lee Manvell, worked with BIGGA over an eight month process to test, refine and re-assess the winter wheel concept. Following meetings with BIGGA Chief Executive, John Pemberton, Powakaddy assembled an advisory panel of Course Managers. BIGGA's Scott MacCallum was joined by Richard Whyman, Burnham & Berrow GC; Colin Webber, Portmore GC; Paul Worster, Minchinhampton GC, and David Wood, Hever Castle GC, at various times during the development process.

"We do have viable solutions for push carts but we have really been looking for a proven solution for electric trolleys to protect our courses and enable us to maximise winter golf revenues," explained Colin, after one of the testing sessions.

Prototype testing, demo days and meetings throughout the spring culminated in a third generation product being subjected to a full test at Hever Castle GC in July. To replicate soft wintery conditions the test area was saturated with water for three and a half hours.

David Wood was very impressed

with how the new design tested.

"The testing conditions were tough but the wheel lived up to the expectations and made limited impact on the turf."

The product review centred around eight key tests designed to simulate the usual movements of an electric trolley in wintery conditions, in some cases to extreme levels to test the new design to its limits. The wheel's key performance attributes, such as weight distribution, traction, turning ability and the subsequent affect on the grass blades, root damage and soil compaction were scrutinised. In all cases the new winter wheel passed the performance criteria established by the advisory panel and product design team. Full test results are summarised in the panel below including the final on-course field and general wear and tear tests in September.

The headline feature of the new winter wheel is the open tread, based on a principal seen in lawn protection mesh mat systems, which evenly distribute the load over a smaller surface area avoiding compacting and denting. The new wheel allows minimal ground contact, avoiding ground penetration and maintaining traction to avoid slipping. On soft ground the new wheel causes negligible damage. In addition the small crown on the front and rear tyre reduces dragging while turning without loss of traction.

The wheel is a composite that consists of a structural inner hub, over-moulded with a highly durable rubber. The design is registered and has a patent pending including its method of manufacture.

"We are delighted to have taken a proven design principle from another industry and successfully applied it to electric trolley wheel

technology" commented Powakaddy's Lee Manvell.

Richard Whyman praised Powakaddy's decision to involve BIGGA at a stage where a positive impact could be made on the finished product.

"It was great for a company to approach greenkeepers to ask our input during the design stages. During the trial the wheels gave better wheel to turf footprint helping to avoid that usual wheel spin which is an improvement to what I have seen available to date."

One practical but extremely significant point is that new winter wheel can be easily retro-fitted, with a quick release mechanism, to any Powakaddy electric trolley from the 2000 models onwards. Estimates vary of how many golfers this may cater for but given Powakaddy's dominant market share the number is likely to be well over quarter of a million. Importantly the new wheel is the same diameter as a standard Powakaddy wheel therefore the distance and speed functions do not need to be modified.

The new wheels will be available in limited numbers from December this year and the benefits are likely to be far reaching. Minimising turf damage and more regular winter golf are the most obvious advantages for greenkeepers and electric trolley users but they won't be the only beneficiaries. Golf course owners will not only see increased traffic but an ever increasing number of courses also boast sizeable Powakaddy rental fleets which can now generate much needed income all year round. Add to this the revenue opportunity that winter wheels present for on-course PGA retailers and one can see that this innovative new product is set to be one of the most significant golf developments for 2010.

The 8 Winter Condition Tests

1) Straight line:

Several single passes in a straight line produced no visible tracks with the new Winter Wheel = PASS

2) Turning:

On the spot turning resulted in the Winter wheels twisting grass without breaking the grass blades or roots = PASS

3) Concentrated use:

High footfall on the same ground traditionally leads to muddy trails forming. The low impact and weight distribution prevented the new Winter Wheel from sinking = PASS

4) Forced Slipping:

Trolley set to full speed and held back with reasonable force to simulate loss of traction and slipping. In this excessive test the Winter Wheel lost traction late enough to suggest that it would not slip in normal use and the tread does not scar the turf = PASS

5) Weight Distribution:

Demonstrated in a bunker to visually emphasise track formation and depth of indents. Winter wheels caused minimal indentation = PASS

6) Vibration:

On a rolling road to simulate very rough/uneven terrain. The Winter Wheel proved to be extremely durable with no mechanical weaknesses = PASS

7) Static impact:

The wheel was hit with a weight to replicate momentary impact such as transit or collision damage. The Winter Wheel proved extremely resilient = PASS

8) Environmental:

UV and salt water test to assess wheel condition if left outdoors for a long period. No adverse affects = PASS



Rockliffe Hall's Davy Cuthbertson talks with Charles de Haan about the role of the Course Manager in golf course signage.

“Get involved with your club’s choice of signage!”

Signage has become one of the most significant ways in which the presentation of a golf course can be improved, and with the ‘flight to quality’ now a major trend in the golf club market, signage is an investment decision well worth getting right.

Yet many clubs and courses assume that the decision as to what type or design of course signage belongs to the club’s owners or committees. While understandable from a purely financial perspective, the one person who knows the course and its environment best is the Course Manager or Head Greenkeeper. Combine that knowledge with the responsibility for the signage’s maintenance and a Course Manager is ideally placed to decide, influence or advise on the signage design, type and choice of materials.

Rockliffe Hall

Davy Cuthbertson is the Course and Estate Manager at the recently completed Rockliffe Hall golf course, and has been overseeing the new championship course’s growing-in since January 2008. Familiar with

every aspect and detail of all the grasses and their colourings, the overall environment of the course, and the weather conditions the course and its furniture will have to face, Davy made it part of his job to get involved with – in fact, initiate – the choice of signage design for Rockliffe Hall.

His choice was influenced by his experience at Slaley Hall, his previous posting. Out on the course, bronze had been used on dry stone plinths which Davy felt blended well with the colourings and the course environment at Slaley Hall. While Rockliffe Hall is a parkland course, the fairway grasses are a mixture of bents, fescues and rye that tend to be typically grass green in colour throughout the season, whereas the mixture for the roughs is a wild fescue which goes a brownish yellow through the main part of the season.

With that in mind, Davy also wanted a material that was going to last for a very long time, and be very easy for his team to clean and maintain.

Davy’s other concern was to get his team of 12 greenkeepers on board.

“They are the ones who are going

to have to look after all the course signage, and I wanted their input and opinions as much as the chaps who’d be signing the cheques. I needed to make sure they took a pride in every aspect of the course we’d been given the responsibility for turning into one of the UK’s finest.”

Set the brief, involve the decision makers – and get the greenkeeping team’s buy-in

Davy started by taking some of Rockliffe Hall’s decision makers and greenkeepers to Harrogate Week last January to see what was on offer from the signage companies. This enabled Davy, and the chaps signing off the cheques, to get a good idea of each of the companies; having set a brief outlining what he wanted and the overall specifications for the designs, numbers of each item, and so on, Davy then got proposals from three selected companies.

Choosing the design

Having looked at all sorts of different signage possibilities, Davy eventually elected for bronze for the signage figures and plaques, and





sandstone on which to mount the dark colouring of the bronze items. But Davy didn't stop there.

"I also wanted a design that would stand out, quite literally, so rather than low level plinths or boulders, I persuaded the directors to go for taller (4' above ground, 1.5' below in a cement footing) sandstone monoliths to be used for the tee signage, with a bronze plaque mounted on the stone carrying a diagram of the hole and all the relevant hole information for each main tee position, ie. white, yellow, red, black and gold. It turned out to be a good decision, because their height is a very distinctive feature around the course, and they are both easy to see and yet blend really well with the environmental colourings."

Fixing the design

Through a process of presentations and further discussions, some bronze samples were provided by one of the companies, Eagle, to demonstrate the quality, durability and impermeability of the detailing that could be achieved using cast 'penny' bronze. With Eagle's help, the resulting design of the hole information for each of the bronze plaques was innovative, as it comprised:

- the hole number
- five sets of yardages and their respective tee colourings
- a painted, infilled black background
- par and stroke index
- the Rockliffe Hall logostyle and symbol in bronze out of the black background
- a diagram of each hole and its major hazards.

The next challenge was finding a source for the sandstone monoliths, and Davy had soon tracked down a quarry near Leeds that could provide and deliver just what he wanted. As each monolith was going to be stacked in a prominent position at the beginning of each hole, Davy also created a simple 3' circle of sandstone gravel as the base of each monolith. This would be simple to keep weed and grass free, while also being easy to mow around.

Maintenance: designed to easy, minimal

Based on Davy's experience of different types of signage materials, the maintenance is very simple, as Davy explained

"Bronze is more expensive than zinc or other bases, but it is a 'forever' product – it's virtually impossible to damage or scratch it, and it only needs a wipe with a damp cloth to remove dust or bird mess. It's also possible to refurbish the bronze in the future. The sandstone is the same: it lasts forever, it doesn't need any cleaning attention as such, and the gravel surrounds are designed for minimal maintenance as well. The mow-overs in the tees are the same, being bronze set in sandstone mounts.

"Now it's all been installed, with all the sandstone monoliths, the mow-overs on each tee, the point of play markers and so on, my original vision for all the finishing touches at Rockliffe Hall has become a reality, and I'm glad to say that there's been a lot of praise for the overall presentation of the course. Eagle's input throughout, from design to



delivery, has been very useful, and the signage really looks the part. In the opinion of all those involved, the extra cost of going for bronze on sandstone has really paid off. It's worth it for the image and impressions it creates, and as an upmarket golfing destination, for Rockliffe Hall that's essential."

Advice to other greenkeepers

Davy's advice is very straightforward.

"Get involved with your club's choice of signage! It's an essential part of the course and as a finishing touch, presentation is the greenkeeper's responsibility. With your knowledge of the course and its environment, you should be the one person the club can trust with design, material and maintenance issues, so don't wait for them to make the decision – get involved!"





1st

Lyme Regis GC by Stuart Broom

Sun shines on Stuart

The 2009 BIGGA Photographic Competition, sponsored by Syngenta, has been won by a stunning picture (shown above) of the sun coming up behind a tree with a green silhouetted in the foreground, at Lyme Regis Golf Club, taken by Stuart Broom, an Assistant at the club.

Runner-up (above right) was a superb winter scene taken by Brian Consitt, an assistant at Lindin Hall Golf Club.

Third place (below right) went to Peter McCalla, of Brodick Golf Club, on the Isle of Arran, with a shot down the 1st with the magnificent view in the background.

The competition which was judged by Golf Course Photographer, Eric Hepworth; Golf Photographer, Matthew Harris;

Alan Birch, whose inspiration the competition was, Karen Robert, of Syngenta, and Tom Campbell, BIGGA's magazine Designer. Scott MacCallum was Chair of the voting panel.

Stuart receives a print of his choice from Eric's extensive photographic library and Lyme Regis will be profiled in the magazine next year.

Brian and Peter also receive prints. The three pictures and nine others will comprise the 2010 BIGGA calendar.

"I thought the winning pictures were all excellent. Stuart's picture of Lyme Regis shot into the sun showed great technical skill and is extremely atmospheric," said Eric.

He did have some advice for all amateur photographers

and entrants to the competition in future.

"Another piece of advice to entrants. Many of the pictures were taken early in the morning but taking some in the late afternoon or evening would have given a different perspective.

"Taking pictures in the middle of the day is to be avoided as the shadows are directly overhead and offer no contrast in the picture.

"In general I felt too many of the entries didn't show enough of the golf course and it is a golf course competition."

All the photographs may also be used by Syngenta as part of their marketing programme

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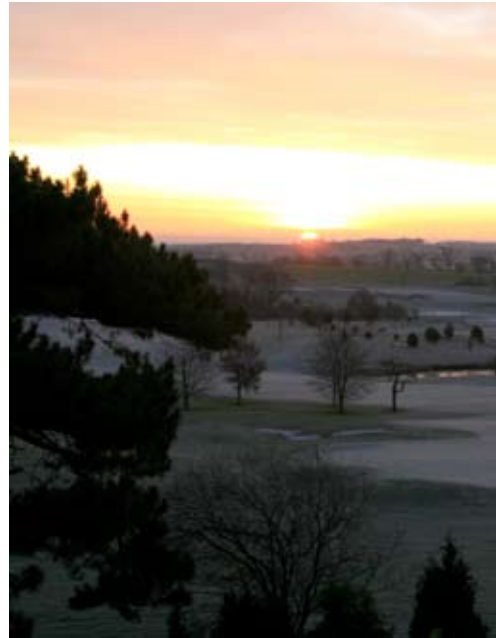
Linden Hall GC by Brian Consitt



Isle of Arran by Peter McCalla



Bedfordshire GC by Niall Kerr



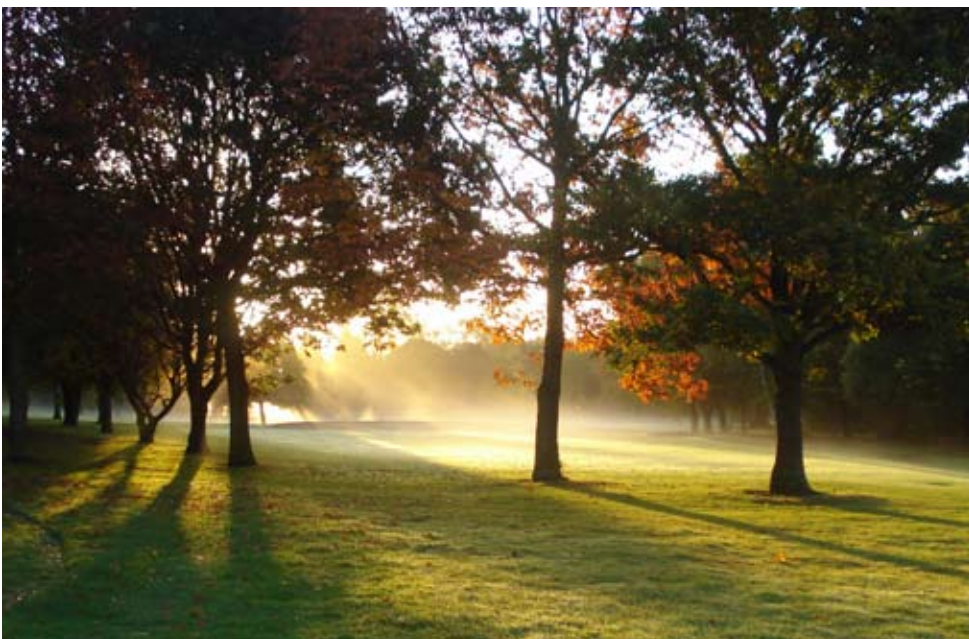
Linden Hall GC by Brian Consitt



Wells GC by James Elliot



Pummerend, Burreggolf GC, Netherlands by Niall Kerr



Sundridge Park GC by Kevin Spooner



Minchinhampton GC by Paul Worster



Teeside GC by David Moss



West Byfleet GC, John Kaye



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Aeration

Left field thinking can pay off

Aeration equipment discussions tend to focus upon types of machines; their working speeds, operating depths, tine sizes and potential hole spacing. But it is how a piece of kit can be used that can make a real difference, as James de Havilland discusses...



The Bigga Training & Development Manual, sponsored by John Deere, is an invaluable tool for everyone working within the greenkeeping industry.

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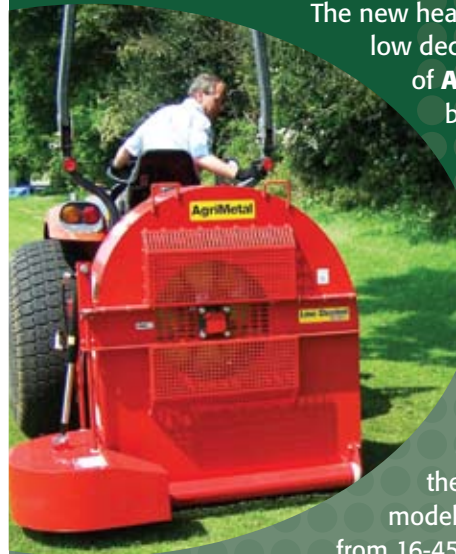
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- 2 Click on the Members area, the Jobs page or the Education page and click on the BIGGA Training Manual link.
- 3 Enter your login details and select the BIGGA Training & Development Manual from the left hand menu.
- 4 The Training Manual will load and the user can click on Enter the Site to view a welcome video or can select 1-9 or 10-18 on the top menu bar.
You can progress through the manual hole by hole or go straight to the hole you wish to view. You can also skip to holes 10-18.
- 6 When you select a hole you will be presented with a window that explains what that hole is about. You can then select from the bottom tabs, video or sub-text (downloadable documents and links).
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