

Pre-mix four-strokes – how they operate

In outline, a pre-mix four-stroke engine operates on a conventional four-stroke cycle but does away with the oil sump. Lubrication is provided by using a conventional two-stroke petrol oil mix. Instead of this mix entering the engine directly via the inlet valve, it is drawn from the carburettor into the crankcase where it lubricates the crank and valve gear. The mix then passes via a port up to the intake valve, which opens to let it into the engine.

This simplifies what is a somewhat more complex process; there are subtle differences between the Shidaiwa and Stihl designs too. But the basics are the same, and from the end users standpoint the engines can be operated pretty much like a conventional two-stroke. This means they can be run, and equally importantly, stored at extreme angles without problem.

Why legislation has helped boost dependability

The need to both clean the emissions and noise generated by small air-cooled two- and four-stroke petrol engines may have cost manufacturers a great deal of money, but for the end user the results have led to more than just cleaner and quieter powerplants. Modern units are more reliable and fuel-efficient too.

Although it would be wrong to suggest the small petrol engines that power everything from clearance mowers and brushcutters through to generators and small ride-on mowers are perfect, most users would agree that these engines are typically reliable and, as a result, almost taken for granted.

Interestingly legislation can, in a way, be thanked for this. Modern power units run on a lean fuel mixture to ensure emissions are kept to a minimum; by burning less fuel, fewer pollutants are produced and consumption is also cut. To achieve this, modern carburettors are produced to exacting tolerances and, in most cases, are also 'tamper proof'. This, in itself, can boost reliability as it reduces the chances of the carburettor being set-up incorrectly.

Add the almost complete disappearance of contact breaker ignition systems, which need routine attention to ensure reliable sparking and perfect timing, and it is little wonder a modern small petrol engine is less likely to give trouble. In most cases, clean oil and filters, plus the odd sparking plug, are all that are needed to keep an engine running sweetly.

When modern carburettors do need attention, however, they can be more difficult to service. Small drillings and jets will always be liable to block or gum up with deposits from the fuel. With an old style carb, a blast of compressed air could be used to clean it out and not do any damage. Doing this on a small and delicate modern carburettor may still work, but it can be ineffective and actually damage the fine drillings and jets now in use.

Ultrasonic equipment, such as the Ultrawave system, is now accepted as the best way to clean a modern carb. The carburettor is immersed in a cleaning solution, with ultrasonic waves creating millions of bubbles within the fluid that 'explode' within the fine drillings and jets of the carburettor. Because they are minute, the bubbles can reach every nook and cranny of the carb and really clean it thoroughly.

There is no 'physical' abrasion with these systems either, so the carburettor is not subjected to any wear that can enlarge any of the apertures. In most cases, a carb cleaned by this type of system will perform 'as new' on replacement. Where it does not, a new unit will typically need to be fitted. Apart from fitting new diaphragms, repairing a faulty carb is increasingly no longer viable or possible.



Stihl offers its 4-Mix power unit on brushcutters with power outputs from 1.3 to 1.9hp, with prices starting at around £320 for its entry level FS 87 and topping out with the FS 310 at £550. The pictured KM 100 R power unit is part of the Stihl CombiEngine line-up. It can be used to power brushcutter, hedge trimmer and brush attachments. Prices from £300 plus attachment



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BIGGA Open Support Team 2007

CARNOUSTIE 2007

While there were 55 greenkeepers working at The Open as part of the BIGGA Open Support Team there was one greenkeeper who was actually playing in the Championship itself.

David Coupland, who has recently left Boston Golf Club, to play full time amateur golf was the leading qualifier from Monifieth Golf Club and played the opening two rounds in the company of US Ryder Cup player, Vaughn Taylor, and Australian veteran, Peter Fowler.

A 21 year-old +2 player David was in the fourth match on the opening day and with a birdie at the 1st may well have been leading the Championship for a few minutes – he certainly featured on the leaderboard. It was never going to last, but he acquitted himself very well shooting rounds of 79 and 74 – matching Tiger Woods’ score in the second round.

“I really didn’t expect to be here. I entered this year for the first time just to give it a go and qualified with a 71 at the Regional Qualifying at Gog Magog,” he explained while sitting the BIGGA Marquee after his second round.

He then shot 69 in the opening round at Monifieth to lie tied 8th in the chase for three Open places and followed that up with a 65 to win the qualifier outright by one shot.

“I holed a 20 footer on the last and thought that might have done it for me but I had to wait for six hours to see if anyone beat me. It was a nightmare.”

After it was confirmed he headed home and returned to Carnoustie the Sunday before it started to prepare.

“I bumped into most of the players in the locker room, apart from Tiger, obviously, and played a practice round with former Open Champion, Justin Leonard. Australian, Robert Allenby, also give me some advice,

which was very good of him. I did my best not to be in awe of the other players and to play my own game and I was pleased with the way I struck the ball.”

David made seven or eight birdies over the two rounds and brought the galleries to their feet with a monster putt on the 11th in the first round and an approach to two feet on the 13th during the second.

“The crowd enjoyed that,” he said, while admitting that the birdie on the 1st may have been the worst thing he could have done.

“It pumped me up even more than I was and I immediately drove into a fairway bunker at the next and doubled bogeyed.”

Players are well looked after during The Open. David took advantage of the Lexus courtesy car service on one occasion but, in an attempt to keep things as normal as possible, drove himself to the course on the other days.

“I drove my Corsa into the competitors’ car park,” he laughed.

He also received a new Titelist golf bag, two pairs of Footjoy shoes, Nike clothing and some Oakley sunglasses while he was most impressed with the food and refreshments available in the Players’ marquee.

David, who was supported by Bruce Hicks his former Course Manager and the Boston Secretary on the opening round, is determined to give amateur golf his full time attention with the English national squad and perhaps Walker Cup the ambition but he is pleased that being a qualified greenkeeper will give him some insurances for the future.

“I hope to be back playing in The Open again for many years to come,” said David.

BIGGA Bunker Stats – The Story Continues...

	1995 St. A's	1996 Ly'm	1997 Troon	1998 B'dale	1999 C'stie	2000 St. A's	2001 Ly'm	2002 M'field	2003 St. G's	2004 Troon	2005 St. A's	2006 H'lake	2007 C'stie
Bunkers	112	185	84	117	115	112	197	148	106	93	112	96	113
Rd 1	214	501	344	355	539	148	557	359	388	393	252	352	442
Rd 2	201	577	272	406	468	164	547	372	405	371	203	353	482
Rd 3	130	269	107	226	202	65	224	175	149	148	100	183	189
Rd 4	156	271	136	153	265	71	257	169	181	185	121	204	198
Total	701	1618	859	1140	1474	448	1585	1078	1123	1097	676	1092	1311

Golden Nuggets supplied by BIGGA Support Team

Justin Rose was distracted on day one on his 2nd shot to the par-5 6th, when a golf buggy crashed off the side of the road. Information supplied by Scott Corrigan, Greenburn GC.

Geoff Ogilvy smashed a sign on day one on the 13th hole in a temper. Information supplied by George Stephens, Exeter Golf & Country Club.

Jonathon Byrd asked a marshal on day one on the 16th tee to turn the heating on. Information supplied by Stuart Hogg, St Annes Old Links GC.

Day one on the 18th hole, a disagreement between two of the players in the second to last match had to be calmed by officials. Seung-Ho Lee had a drop on one side of the fairway and prepared to play. Meanwhile Holtman, on the other side of the fairway also got ready to play and both played virtually at the same time. Holtman, playing a split second after Seung-Ho hit the ball out of bounds and then played a 2nd ball into the RH Stand. Holtman's caddie went mad and the air turned blue. Information supplied by Gary Cunningham from Trentham Park GC.

While backing out of the gorse bush looking for Andersson Hed's ball, the end of the rake caught Rich Beem right between the legs. He joked that he was glad he wasn't trying for children. Information supplied by Neil Woolfrey from Great Lever & Farnworth GC.

Spencer Levin stopped a female spectator on the 9th, had a mouthful of her beer then gave her a kiss – it was his girlfriend! Information supplied by Asa English from Charnwood Forest GC.

The Duke of York accompanied Shaun Micheel and Sandy Lyle's game on day three of the Championship. Apparently he would like his lawn like the fairways of Carnoustie! Information supplied by Richard Beacham from Wrekin GC.

Tiger Woods 2nd shot on the 6th on day three, struck a lady spectator on the head and bounced out into the rough. Tiger checked she was ok and gave her a signed glove. After completing the hole he asked the rules official, Andy McFee, to give her the ball as well. Information supplied by Richard Saunders from St Neots GC.



Tiger Woods on the Putting Green



John Pemberton, BIGGA Chief Executive, David Coupland, Ex-Greenkeeper at Boston GC and Billy McMillan, BIGGA National Chairman



Practice Ground



Martin Haywood from Bawtry Golf & Country Club and David Leatherland from Kedleston Park GC



David Byrne (right) from St. Helen's Bay Golf Resort, Ireland

News from the Open...

The BIGGA Cabin where Support Team members register before making their way to the 1st tee is not always found in the heat of the action but this year it was in the corner of the Carnoustie Hotel car park close to the pavement and a little bit easier to find. Peter Alliss popped his head round the door to congratulate the team on the work they were doing, while Radio 2 DJ, Chris Evans, was also spotted outside and signed some autographs for the team.

Team member, Neil Woolfrey, hit the back pages of his local paper after the first round. He was assigned the match which included a friend and local pro, Steve Parry, and bet £100 at 3-1 that he'd outscore his two playing partners. The bet duly came good and Neil was £300 richer. While delighted, the publicity in his local Bolton paper meant he was left with a nagging doubt that his wife might find out about the bet!

A greenkeeper never forgets. In 1992 BIGGA Board Member, Gavin Robson, leant Justin Rose a pound coin to act as a ball marker. At the end of the round Justin marched off with Gavin's hard earned. Five years on Gavin spotted Justin at Edinburgh Airport as they both travelled to their respective homes after this year's Championship. "Can I have my pound back?" Gavin demanded. It's not known whether Justin recognised the Burton GC Course Manager but he did cough up, adding 10p to cover interest payments over the period.



BIGGA National Chairman, Billy McMillan and Carnoustie Course Manager, John Philp

Plonker of the Week Award

Three candidates. There was the man who was waiting outside the University of Abertay at 5.25am ready to go bunker preparing only to realise that the pick-up time was 4.30am. A quick taxi ride and £20 lighter in his pocket he arrived in time to prepared the last hole and a half! Candidate number two had his phone on silent and slept in on the Saturday missing his mini bus and, consequently, his match. Winner, however, was the BIGGA official who carefully made sure that the minibus was wide enough to fit through a tight railway bridge but forgot about the fact that the minibus was a foot taller than the height of the bridge. Ouch!

John Philp and his team received universal praise for the condition of Carnoustie. The players were lining up to express their delight to R&A officials at what they found when they arrived in Angus and the course delivered an amazing Open Championship.

It is all the more praiseworthy as the weather conditions in the lead up to and during the Championship were not what would be considered ideal. High rainfall in the months preceding the Championship meant a course much greener than would have been hoped - certainly not close to the straw coloured course 12 months before at Hoylake - but given that the conditions by the team were as perfect as they could possibly have been. During the week the heavy rainfall continued but Carnoustie continued to soak it up and it was only on the final morning when some bunkers had to be emptied and some greens squeegeed. Most other courses would have succumbed under such a deluge.



John Philp, Carnoustie Course Manager, Billy McMillan, BIGGA National Chairman and Grant Moir of the R&A, at on-course briefing



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A SWISS ROLE

Think of Switzerland and what comes to mind? Well, skiing and the Alps, obviously; then there're banks, watches and cuckoo clocks; not forgetting, chocolate, Swiss rolls and Swiss Army knives. Oh there is the country's famous neutrality and the bizarre fact that, as a land-locked nation, they've won yachting's America's Cup twice!

Golf doesn't exactly figure on many lists. Tennis is up there with Roger Federer and Martina Hingis, but can you name a Swiss golfer?... No, didn't think so.

However, golf is thriving in Switzerland and one British Course Manager, Steven Tierney, who has spent 20 years in Switzerland certainly wouldn't want to ply his trade anywhere else.

And it's hard to argue as you sit on the Golfpark Nuolen clubhouse balcony gazing at Lake Zurich in one direction and the Alps in the other – the course is just a kilometre from the foothills.

Those of you who entered the inaugural BIGGA Golf Photographic Competition may now be feeling a little bit cheated. Steven won with a superb picture of hills reflecting off a lake – not the Alps nor Lake Zurich incidentally, but another view of the course – but let's face it, it wasn't just run of the mill scenery he had to choose from.

A Lancastrian, originally from Bolton, Steven first moved to Switzerland as an 19 year-old with a wanderlust, having written to a number of golf course architects asking for work and then handing in his notice at Fulford, in York.

"Donald Harradine replied and put me in touch with a little nine hole project in Switzerland. Ian Tomlinson, who was then working in Switzerland, came to Fulford and talked to me about the job. The Secretary at Fulford was a super guy who was impressed that I was planning to work abroad, and said he would hold my job open for me for a few months if it didn't work out. That gave me a real feeling of not burning my bridges," recalled Steven, who has a photograph sitting on his desk of his footballer father getting the better of Sir Stanley Matthews in front of 80,000 fans at the old Bolton Wanderers ground.

That feeling of security was all the more important when he arrived in Switzerland to be told by the owner that the original Head Greenkeeper

wasn't now coming and that he would be Head Greenkeeper. It was the original Jacques Cousteau or Mark Spitz (sink or swim) situation and it turned out to be the making of him. He did return to Fulford but only as a visitor, happy to let people know that his move was working out well. So 20 years on and with ten years under his belt at Golfpark Nuolen what is working life like 690 metres above sea level?

Well one thing is for sure, commitment and hard work are prerequisites of working in Switzerland, but the rewards are there.

"The guys work an average of 450-500 hours overtime from Easter until the end of October, our regular working season," explained Steven.

Incidentally, as a non EU country the Working Hours Directive doesn't apply to Switzerland.

"Our regular day starts at around 5.30am when we go through the day's programme. We normally have the machines out by 6am. There is a half hour break at 9am where the team meets up at the clubhouse for coffee and then work until noon when we stop for lunch for an hour. Then we work from 1pm through to our regular finishing time of 6pm but there are many occasions, yesterday being one of them, when one of the team has said he wanted to work on 'til 8pm to finish off some rough cutting.

"We also do double shifts on the weekend, depending on tournaments when you will perhaps do a Saturday morning and a Sunday morning while others do Saturday afternoon and Sunday afternoon. You get one weekend off a month," said Steve.

However, there are compensations for such an intense and demanding working schedule.

Because snow and skiing replaces golf from around November until around February or March, Steve and his team take three months off over the period. They complete their machinery servicing and seasonal jobs in November and the first part of December and are officially off from December 15. The good part is that they are retained on the pay roll over this extended break. The even better part is that they generally get, not one but two month's bonus pay. The unbelievable bit is that the tax rate where Steve and the team works is 2.5%. Oh yes, the club's

parent company, concrete producer, Kibag, owns its own little stretch of beach on Lake Zurich and employees can pop along and make use of their own barbecue and beach hut.

“It is quite standard in Switzerland for people to get paid 13 months of the year and often there is a bonus month on top of that, so we are generally working nine and a half, ten months at the absolute maximum, and getting paid 14 months,” said Steve, who paid a higher rate of tax for the first three years he was in Switzerland.

Switzerland is home to many high earning sports and show biz stars because of the favourable taxation policies. Among those living around Lake Zurich are Jackie Stewart, Kimi Raikkonen, Nick Heidfeld and Felipe Massa from Formula 1; Roger Federer and Martina Hingis; while Tina Turner, David Bowie, Shania Twain and Michael Schumacher live on Lake Geneva.

Despite not being recognised for its golfing heritage there is a very high expectation level from Swiss golfers.

“They expect high standards because so many of them are cosmopolitan, very well travelled and have played top courses in other parts of the world and they expect the same at home. Our course is pay and play but a lot of our members come from the Zurich banking community and play a lot in the US. We also have a regular who is a member at Alwoodley, in Leeds, while there are often groups who take golfing holidays to Scotland and the like.”

Each year Steve’s target is to have the course ready for play two weeks after the official snow melt.

“We generally know when that is because the temperature can rise from -20 to +15 in three days and while it can snow again it generally doesn’t stay long and the snow melt is usually in late February or early March.”

Snow mould is the main problem – a nasty disease with many similarities to fusarium.

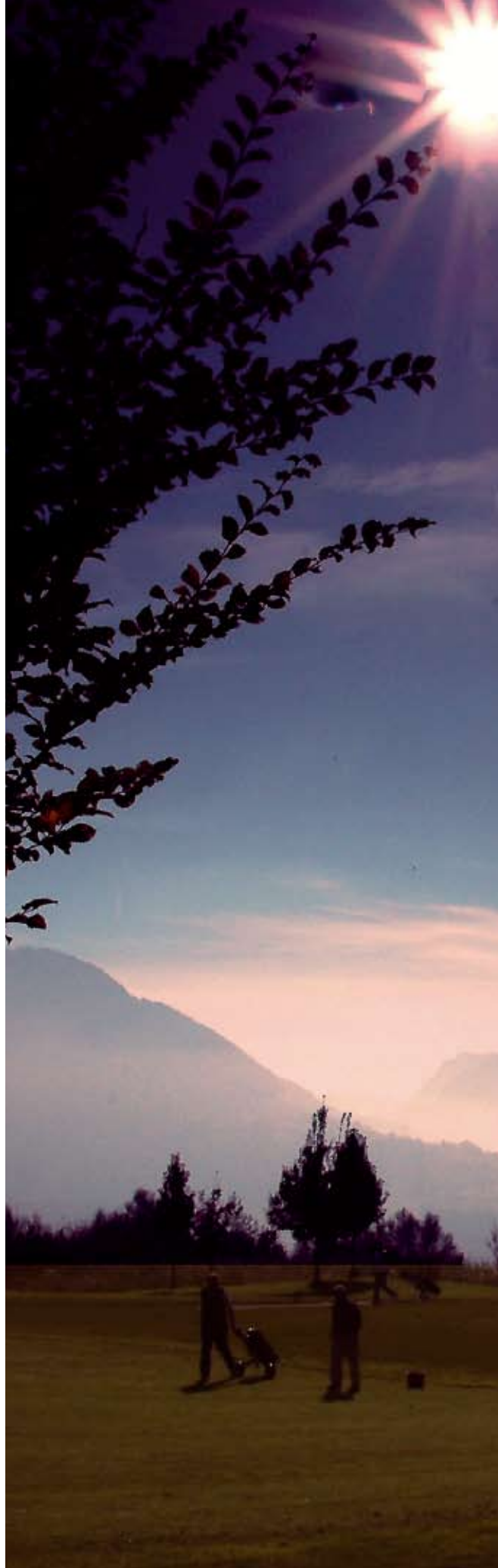
“It is always a problem if the snow, and it can be up to two metres deep, comes before the ground has frozen. If the ground has frozen you can be pretty sure you are not going to have a problem but we often take a shovel to remove some snow just to see how it is.

“If you have snow mould and you can get 80% infection the first thing we’ll do it double verticut everything to rip the old stuff out then, and I know it goes against basic greenkeeping principles, we fertiliser the whole course. You’ve got to give it a wake up with a bit of quick release to get a bit of colour.”

Another major difference between course management in Switzerland and the UK is the level of Governmental input and inspection on the country’s 84 golf courses.

“Every golf club in the country has a designated Government-appointed Environmental Officer and we have to provide an annual report to the Government and local council. Last year we produced a 300 page inventory of all plants and insects on the golf course,” explained Steven, who added that one of the regulations in place meant that they weren’t allowed to cut their flower meadows each year until after June 15.

The regular twice yearly meetings are not something that Steven worries about particularly as he works closely with his environmental officer, a local man who works for the World Wildlife Fund, ensuring that there is no chance of incurring the wrath of the Government, although he knows of one golf development which was closed down for five years because of a breach of a law.





One of the initiatives which have been put in place at the behest of the official can be seen alongside the road on the top side of the course. A fence runs alongside the road and there are buckets sunk into the ground just inside the boundary.

“We have to check them daily for frogs and then take them across the road and release them. The same goes on the other side, for frogs wishing to come in our direction. It’s to stop them being hit by cars,” he explained, with studies demonstrating a two way passage for the frogs wishing to lay eggs in the golf course lake.

“We keep records and we will probably transport over 2700 frogs and salamanders in the course of a season.”

One of the problems of a country with only 84 courses is that there is only one dealer per manufacturer to cover the whole country and rep visits are fairly intermittent. With that in mind Steve and his team retain an extensive workshop of spares and utilise the manufacturer websites for advice wherever possible.

The golf course is built on an old gravel pit for which the option was given for it to be a rubbish dump or a recreational area.

“There was zero chance of getting planning approval for a rubbish dump and one of our Directors, who played golf in Florida, suggested a public pay-and-play golf course and this won approval from the planners.”

Designed by Peter Harradine, the course was built in-house using the vast array of earth moving machines owned by Kibag, with Conor Nolan, now of the STRI, as Construction Supervisor. Steven arrived towards the end of the construction process.

What was produced was an excellent 9 with another 9 in the early stage of construction - another 9 will follow later - and a superb nine hole pitch and putt course. The quarry, which ironically doesn’t produce any sand usable for golf courses, sits at the top of the site and a conveyor belt runs the entire length of the golf course down to a store, either above or below ground, and Steve is particularly proud of the six tunnels he helped to build to enable golfers to play over the belt.

“That was a great experience and they are six years old now and no-one has fallen down one yet!”

So what advice would he give anyone wishing to follow him down the route of working abroad?

“I think it is very difficult to bring out an established family. When you are a greenkeeper it is very easy, you are at work all day and have a job to do. Your partner is at home, probably not speaking the language, and that can be very difficult in a foreign place with the days so long. You’ve already heard about the work ethic and commitment in time which is required,” said Steve, whose wife, Claudia, is Swiss while their two sons, Patrick and Jan, were born in Switzerland.

“You must also learn the language. I’ve never had a language lesson in my life, just help from my wife. My German is still laughable at times but people understand me and they do appreciate people making the effort,” said Steve, who actually speaks four languages and admits to thinking in German.

You might be tempted to work abroad but there are sacrifices to be made and work to be done if you are to become a successful ex-pat.

Oh, I can help you with a Swiss golfer if the question were to come up at an interview. Andre Bossert, who won the Cannes Open on the European Tour in 1995.