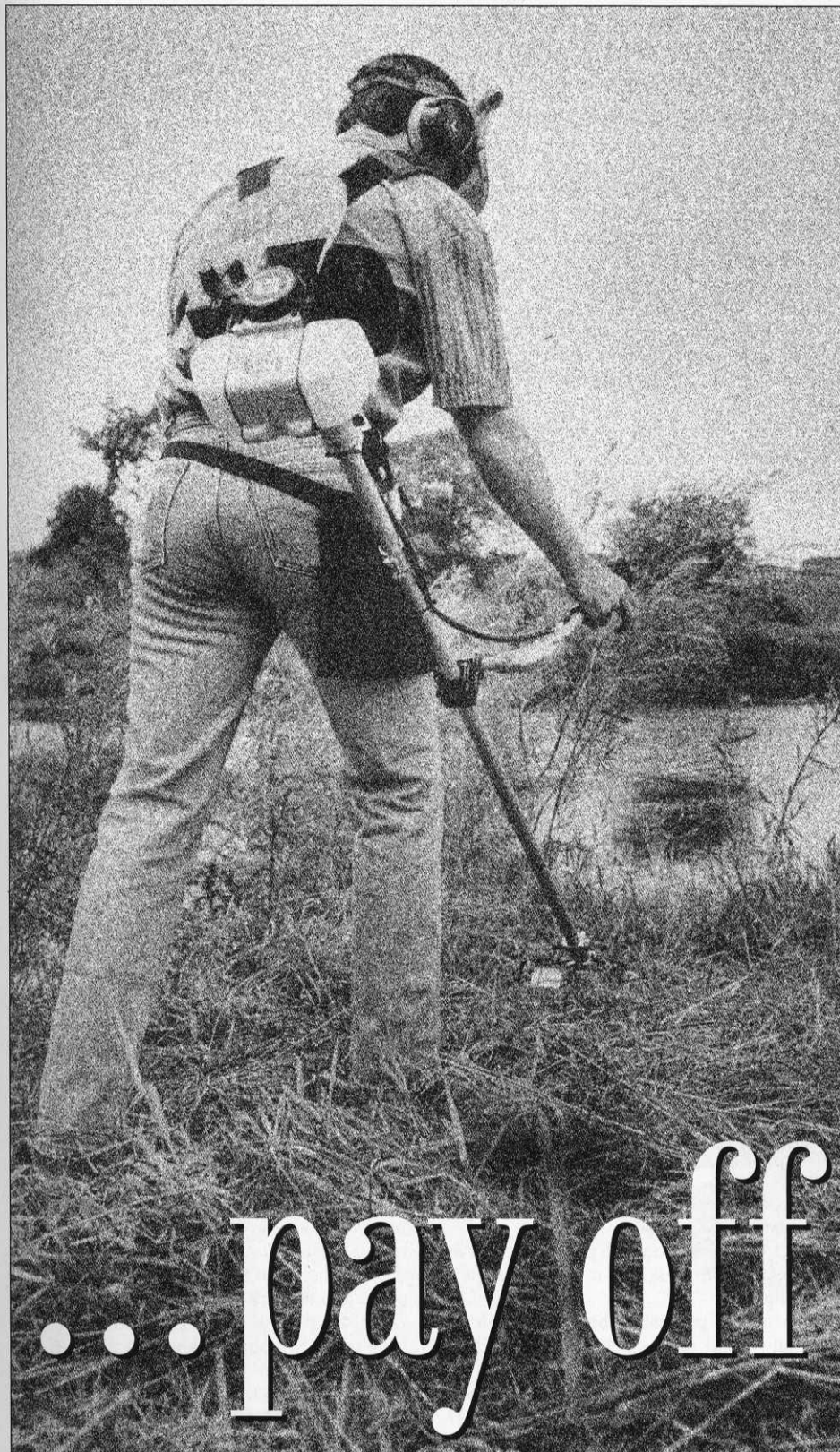


Preparation and detective work...



Roland Taylor gives some advice on what to look out for in outdoor power equipment before committing pen to cheque book.

With a "force six" howling round the machinery sheds and snow piling up on the fairways, now is an ideal time to do preparation and research into the equipment you are intending to buy come the spring sunshine.

A visit to BTME at Harrogate presents an ideal opportunity to investigate what exactly is available. The basic components of equipment are often very similar – same engine and drive systems. However, there can be many subtle differences. These are often hidden from view and make a machine ahead of its competition. A good sales person, or enlightening leaflets, should promote these strongly. Where this is not the case, a little detective work can come up with some interesting, beneficial features and advantages.

Let's take a look at outdoor power equipment. Most of this type of machinery is handheld and often used for long periods of time. In the case of pumps these may have to be transported to sites. One common denominator in all this equipment is the power-to-weight ratio. In recent years there have been considerable advances made in this area. New materials and engine configurations have resulted in increased power and performance, without the accompanying weight.

Engine vibration is also critical. Modern machines will have built-in anti-vibration systems, but in order to keep levels to a minimum, it is also necessary to regularly service all machinery and ensure blade systems are sharp and correctly balanced. Low noise levels are important. There are personal precautions to take including wearing ear protectors, but also remember that noisy equipment can pollute the environment in which it is being operated.

To sum up, what you need to be looking out for is high power output, low weight with minimal vibration and noise levels, plus a well-balanced unit.

Trimmers, brushcutters and clearing saws
We need to identify the difference between these three machines.

The first trimmer was built in a garage in Houston, Texas, belonging to George Ballas. His invention consisted of an electric lawn edger driving a tin can to which was fastened nylon fishing line. He called it "Weed Eater" and went on to sell millions throughout the world. There were soon plenty of competitive brands on the market. This type of machine is used mainly for cutting grass and is sold pre-

...pay off

Preparation and detective work pay off

dominantly in the domestic sector. The brush-cutter and clearing saw evolved from forestry applications where they were used for cutting brush and later thinning and harvesting small trees. The major advantage of these units is the range of cutting heads that can be fitted, thus enabling them to be used on grass and scrub. From this, it can be seen that a brush-cutter is the answer for a majority of readers. Stand a range of different branded brushcutters in a line and you could be forgiven for thinking they had all been cloned. Don't be fooled, underneath those covers there could be a world of difference. This is what you want to find out before deciding which model has the qualities you require.

To begin with, it is important to decide exactly what you are wanting to cut, as this will have a bearing on the size of engine. These start at around 25cc and go up to 100cc. Unless you have a large amount of heavy work a 35cc engine is a good starting point. The drive shaft is subjected to high torsion loads – ones manufactured from a solid, single piece of high-carbon steel are the best. The shaft is mounted in oillite rubber bushes that provide stabilising support and reduce the vibration. When it comes to a choice of handles, the cow-horn style gives better control of the machine. They make it easier to operate and are a "must" when using steel blades.

As far as the cutting head is concerned, this will depend on the type of work to be carried out. Generally, around the course, a nylon line head is suitable for most grass applications. Using the correct thickness of nylon is important as the wrong diameter will slow down the rotational speed.

This reduces the cutting efficiency, increases the chances of growth becoming tangled round the head and places greater strain on the clutch and engine. There may be odd occasions when overgrown areas such as brambles, saplings and light brushwood need to be tackled. For this type of work, a brush-cutter blade is needed. These resemble a circular saw and there is a choice of either 30, 80 or 120 teeth – the more teeth the smoother the cut. All the cutting heads are interchangeable.

Chainsaws

This is a piece of outdoor-power-equipment that many courses will not require. For anyone contemplating buying one, there are a number of features that need to be taken into consideration. These are:

- A combination of light weight and engine power.
- It needs to be well-balanced to handle.
- Is it easy to use with a fully built-in anti-vibration system?
- Does the exhaust direct heat, noise and fumes away from the operator when the saw is used at most working angles?



An exhibition like BTME presents an ideal opportunity to ask those pertinent questions and find out what really is beneath those covers.

- Can it be started easily and smoothly without "snatch"?
- How many rings does the piston have? Two give better compression, more power and longer life.
- What type of crankshaft bearings are fitted, especially on the drive side?
- Are they heavy-duty and oversized?
- Does it have an automatic piston-driven chain oiler?
- The length of guide bar and type of chain

need to be matched to the average diameter of timber likely to be sawn.

This will also determine the size of the power unit. There is no point in having a large powerful saw when for the majority of the time it is only being used for taking off branches. On the other hand, a small saw will not cut efficiently and excessive strain is placed on the power unit.

Hedgecutters

Again, they are not going to be required by every course. Most of the features that one should be looking for in a petrol driven hedgecutter are the same as those for a chain-saw power unit.

As far as blades are concerned, the type, length and height of the hedges are a good guide to which one to choose.

Pumps

When it comes to buying or hiring a pump, time can be saved and possible frustration later by preparing beforehand.

If you have a particular application then the following information will be needed to match it to a suitable pump:

What flow rate is needed? There may be times when you want to move water fast or at least keep ahead of any inflow. This is especially important when dealing with flooding. Is the suction going to be vertical and at what height will it be discharged? The length of pipe run will also be required. Pumps do not generate the same head and this has a considerable effect on the flow. You may wish to transport the pump. If so, it will need a trolley or lifting frame to make this easier. Is it going to be handled by one person? In this case the overall weight will be important. Which is the most suitable power source for your particular requirements? The siting of a pump should be as close as possible to the source of water. Then it can be determined what lengths of hose and filters are going to be required. With all the above pieces of outdoor power equipment there are some other general factors to be taken into account before deciding which one to buy.

How long is the warranty when used professionally? Often this is a different period to when the machine is used domestically. Check the availability of after-sales service, especially replacement parts. An exhibition like BTME presents an ideal opportunity to ask those pertinent questions and find out what really is beneath those covers. You can then match these to your specific requirements and decide whether it is worth seeing the machine perform on your site. The result of this type of exercise will considerably reduce the risk, long term, of ending up with a piece of outdoor equipment that fails to produce the results you expect.

A little homework now can save a lot of frustration later.

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Chemical analysis results are just part of a bigger picture

Jim Arthur, in his letter (*Greenkeeper International*, November) correctly drew attention to over-fertilisation of golf greens and the dangers of uninformed soil chemical analysis. In medicine it is often said that "a little knowledge is a dangerous thing". This is also true in the case of phosphate analysis where there are two main techniques in use by laboratories which both give "correct" results but whose figures often bear little relation to one another. The interpretation of such results therefore depends on having the knowledge of the analytical technique used and its implications. Part of the role of Agronomists is to help Greenkeepers through such traps in what is becoming an increasingly technical profession.

As I am quoted by Jim Arthur as saying that STRI no longer undertakes routine analysis of soil samples as it tells us nothing, I feel that this should be set in context as the impression is created that analysis is never worthwhile, which is incorrect.

The key word in the sentence quoted is "routine". At one time many clubs with soil-based greens having adequate nutrient content and stable pH sent samples of all 18 greens to STRI each year for "routine analysis". In such cases the results told us nothing about management of the greens that we did not know already. However, this does not preclude soil analysis in problematic situations or on sand-based greens as Jim Arthur accepts. For example, an Agronomist visiting a Club for the first time may need a baseline soil analysis for future reference or to reassure the Club that the potassium and phosphate are already in abundance and that nitrogen-only fertiliser is needed. High sand content greens need constant monitoring in order to prevent violent fluctuations, especially in pH which is sensitive to nitrogen source and rate. So there may be a variety of situations in which soil chemical analysis is appropriate, indeed Jim Arthur himself used to send samples to STRI for analysis from time to time.

Therefore, the message is that for Greenkeepers and Agronomists,

chemical analysis results are just part of a much bigger picture. Fertiliser companies are trying to provide better products for Greenkeepers with commercial gain in mind and who can blame them for offering soil analysis as an additional service, gimmick or no! But it is incumbent on greenkeepers to ask difficult questions about analysis methods and their implications. If in doubt they should have samples tested by an independent laboratory and seek the advice of an Agronomist who can place the analysis results in the broader context.

Dr P M Canaway
Chief Executive
STRI

Restoration help wanted

I write to enquire whether you might be able to help my son and I. My son, 13, is a keen engineering enthusiast and we are currently involved in the restoration of the engine from a piece of obsolete green keeping equipment kindly given to us by Hamish Brough, the greenkeeper at Broomieknowe Golf Course in Bonnyrigg, Midlothian.

The machine is a Ransomes Overgreen dating from the 1950s. The engine is running but is unfortunately missing one or two parts which we would like to obtain.

We have tried our local lawn mower specialists but without success. I wonder if anyone who reads this letter might know of an old machine lying at the back of some shed on a golf course somewhere.

If anyone can help they may contact us at the telephone numbers.

Thank you.
William D Hendry
Bonnyrigg, Midlothian
Tel: 0131 663 1785 or 0410 764 475
or Fax: 0131 660 9671

Fringe benefits

The recent article about Valderama (September issue) was quite informative and does, of course, bring about a reaction or two.

Two remarks by Mr Patino in particular struck me, one about the professional nature of the greenkeeping business and the second about Pencross.

The comparison of the approach towards the Golf Course Superintendents in the US and the Course Manager elsewhere shows yet again, unfortunately, that the latter has not yet made much progress, so far at least, on this side of the Atlantic. Clubs in Europe have still not got the important message that greenkeeping should be, and has to be, regarded as a highly professional and well respected profession. As soon as the overall attitude towards greenkeeping staff changes for the better, the general atmosphere and, therefore the level of maintenance of golf courses, will improve.

There is definitely a genuine relationship between the two. It is not magic – the nature of the game is common sense and respect. Greenkeeping staff are not on golf courses to be treated like clay pigeons to be shot at. They are there to do a very dedicated, professional and highly important job.

The end of the century is coming up fast. Now is the time to become really sensible about this much discussed subject. It is not too late yet to treat it in a well mannered and mature way. A new era within greenkeeping will hopefully make a good start into the new millennium.

On the matter of Pencross. This wonderful grass has kept many people awake, especially at night time over the years.

I do agree with Mr Patino when he remarks about the side-effects of this grass.

There are still people who wish to simply copy pictures they either see on TV or in reality at certain "dream courses".

There is no secret that in a country not far from the UK excellent greens have been produced without the need to use a grass like Pencross.

There is absolutely no need to choose to go the hard way in Europe. We definitely can live without Pencross very happily.

Frederick Ten Hage
The Netherlands

ASSISTANT GREENKEEPER

Profile

Usually the spotlight falls on the Course Manager or Head Greenkeeper at a Club. Now it is the turn of those whose work often goes unheralded to star...



Name: **Steve Panting**
Club: **Thornbury GC**
Position: **Student Assistant Greenkeeper**
Age: **41**

1. How long have you been a greenkeeper?

Two years

2. What education are you currently undertaking?

HND Golf Course Management and NVQ 1+2

3. Which one task do you most enjoy doing?

Mowing Tees

4. Which one task do you most dislike doing?

None

5. What job other than greenkeeping might you have ended up doing?

Prior to becoming a greenkeeper I was a qualified nurse

6. Who has been the biggest influence on your career?

Robin Greaves, Head Greenkeeper Thornbury GC

7. What would you do to improve the life of a greenkeeper?

Improve recognition of the greenkeeper's knowledge and skills and improve facilities (mess room etc)

8. What are your hobbies?

Golf, reading, gardening and football

9. What do you get out of BIGGA?

Education on the art of greenkeeping

10. What do you hope to be doing in 10 years time?

Head Greenkeeper

ELMWOOD CREATES THE REAL THING

Scott MacCallum travelled back to his home town in Scotland to see the new golf course which is going to give Elmwood College students the experience of training on a live course.

An oft heard criticism of greenkeeping colleges has been that it is all well and good training full time students in the ways of the job but they don't start learning properly until they're out there doing it on a live golf course when doing it right first time really matters.

In response, and to enhance their positions in what was become an increasingly competitive environment, several colleges have built their own golf courses. Among these has been Elmwood, in Cupar, Fife, which recently opened its new 18 hole course to the public.

"Any golfer coming to play Elmwood will see a lot more bodies working on the course than is normally the case. Hopefully, though, there won't be a whole class of them standing in the way," laughed Carol Borthwick, Head of the Greenkeeping Section.

"When they are working they should be spread out but there may be occasions when a lecturer is doing a theory subject and there may be 16 of them together.

"We will have an information board on the 1st tee so golfers will know what to expect and what the students might be doing. Our leaflet also says "Watch out for the green overall brigade!"

"It should be a learning experience for the golfers, too, because by telling them what we are doing, and why, they will pick up a bit about the greenkeeping side of the game."

The idea of Elmwood building its own golf course had been talked about for some time but it became more of a realistic proposition about four years ago.

"Basically greenkeeping has become very important to us and the previous Principal decided that it was going to be the showcase



On course: Ian Hume, Michael Bonallack, Robert Burns and Stuart McDowall

for the college. In order to fulfil that it was important that we had a working golf course," explained Carol.

Initially they looked at a nine holer but the Scottish Office is currently encouraging colleges to look at commercial activities and the viability of having 18 holes stood out as the better way of making money for the college as well as providing an excellent training resource for the students.

The land, to the west of Cupar, had previously been farmland owned by the college and the ultimate decision to go ahead was made easier by the college diversifying into game keeping and small animal training and as a result not needing so much room.

The new course was laid out by John

Salvesen of the R&A and John Quinn, previously of Alva Golf Club, was brought in as Course Manager from day one.

Work began in June '95 and the course was playable in August '97, with the official opening due to be held in May this year.

"John runs the golf course and is also heavily involved in training. He has five staff, three of whom are permanent and trained to supervisory level and the other three are on schemes of some description," said Carol.

"Those who are involved in training and assessing during the academic season revert to pure greenkeeping during the summer when the college is in recess. However, we do have the potential to take on students in the summer."

Asked the vexed question that, "as the

'We have somewhere in the region of three times the amount of equipment the average 18 hole course would have'

course is a training facility, won't there be areas which are not quite up to scratch because they had been worked on by someone who is learning a particular task?" Carol is upbeat.

"We are hoping that the golfers really don't notice – that's our plan. The staff will be watching over what the students are doing and hopefully there won't be too many mistakes and problems," she said, while pointing out that most golf clubs employ younger greenkeepers who learn on the job.

She is also aware of the criticism levelled at full time college courses about students gaining qualifications but not knowing one end of a mower from the other.

"We've always had a training facility at Elmwood in the past but, now that we have a real live course with real live golfers and students who will be using state-of-the-art equipment, that criticism is completely invalid."

On the subject of equipment the college put the contract for that and the irrigation system out to tender and in both cases Toro came out on top.

"We have somewhere in the region of three times the amount of equipment the average 18 hole course would have – not right across the board but, for example, we have a lot more pedestrian mowers," explained Carol, who revealed that the total cost on machinery was around £300,000.

"In future, once we have settled in, we'd like to get a permanently manned workshop and give students hands-on experience but at the moment we are avoiding this because of the problem of warranties and the importance of having the machines running."

Elmwood's Greenkeeping Section moved out of the college buildings into its own self-contained unit on an old farm site in '95 and this, together with the new course, has totally changed the way Carol and her colleagues operate.

"It's like chalk and cheese and it really makes us wonder how we ever managed before.

"Last year we had 398 greenkeepers but trying to put that number through a three hole training facility wasn't easy. Now we have no problems at all. It also means that they are not doing jobs for the sake of doing them.

"The students are involved in a real project as opposed to something which might be ripped out when they go away or re-done with the next group. Everything is new and permanent and I think that gives the students a bit more satisfaction."

One complication which Elmwood has addressed is when John

Quinn wants to do something at a particular time because it is right for the golf course but the students are required to learn something else.

"We try to dovetail as best we can but if a job needs doing, like hollow coring or top dressing, it will be all hands to the pump and it doesn't matter what else is on the time table that week.

"The key time is when we have block release students who have to do scarifying in December because that's when they are in. It doesn't happen often but when it does we will use the practice area or go back to the three holes at the college."

The first rounds of the course were played on August 2 last year and there could scarcely have been a more distinguished group of guinea pigs. They included R&A Captain, Harvey Douglas; R&A Secretary, Michael Bonalack, the architect, John Salvesen, and the Chairman of the GTC, Bob McLaren.

They reported back that the greens, tees and fairways were of an extremely high quality but that the fairways were a bit tight and the semi rough not quite wide enough.

"Because the course is on good farmland the rough grows quickly so when we arrived for the first day the rough was a bit of a jungle. We are working on refining the landing areas over the winter.

"We have planted around 9000 trees and the course is more undulating than you think when you are playing around it. There are some excellent views as you play around the course."

The college, which is one of the biggest

employers in Cupar, hopes the course will bring a few more golfers into the town, which currently boasts a golf club claiming the oldest nine hole course in the world and, incidentally, the course on which your Editor learned, after a fashion, to play golf.

One of the other benefits of the golf course is that it will get students into the way of a greenkeeping life.

"With our agriculture courses students had to get up at six o'clock and do the milking because the cows couldn't wait. We'll be in a similar situation as the golf course will need to be presented for play each day in its life. We shall perhaps operate a rota system so students will have to come in early or work at the weekend. They will get a flavour of what they are going to get in real life," explained Carol.

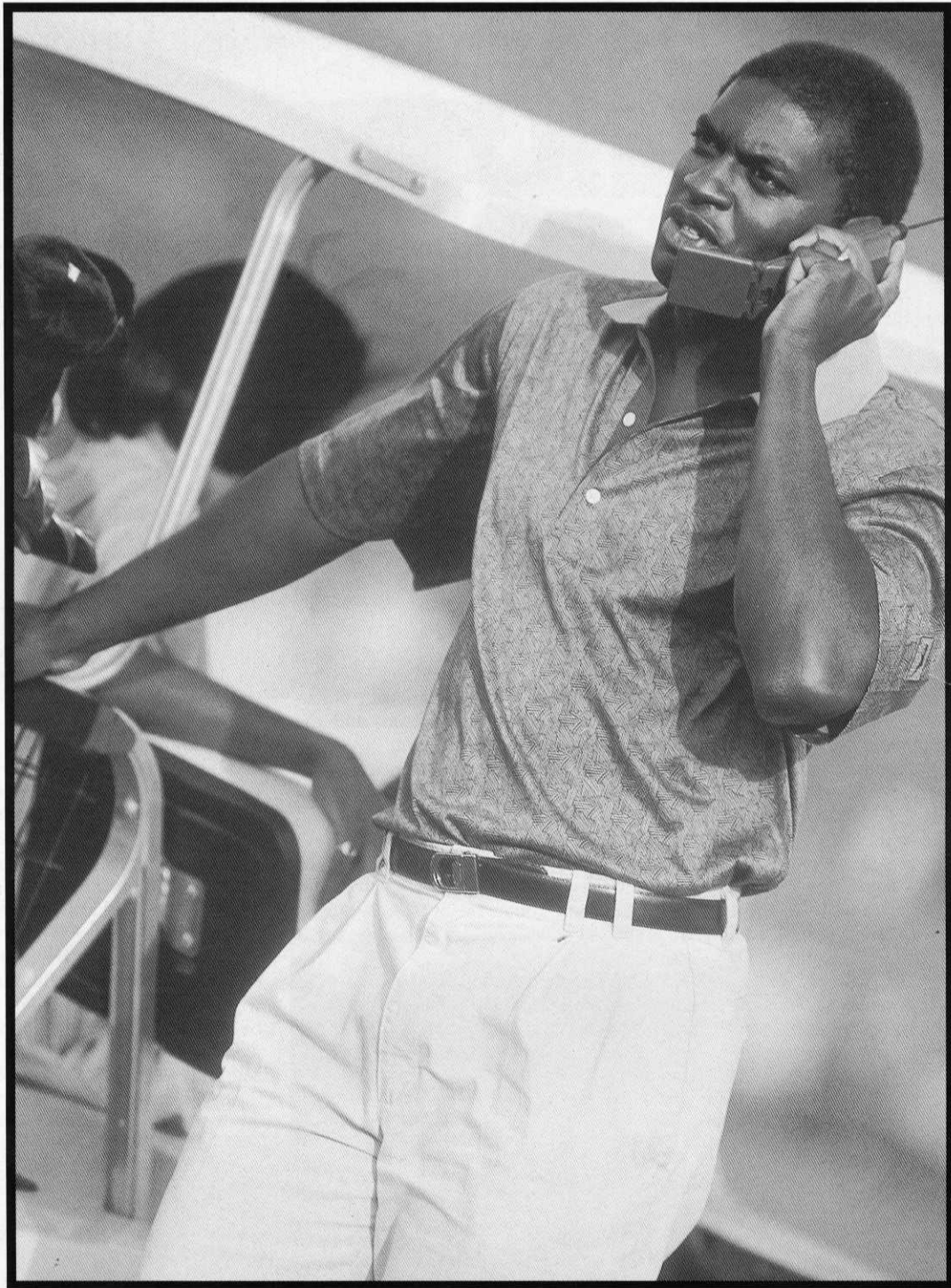
The onus is on the golf course, which hopefully in time will form its own club to enable members to gain handicaps and break even financially.

"Money is going to be the crucial thing in the next few years. Other areas of the college don't make money so the plan is that the course will be profit making... but not huge," she said, admitting that she now had two focusses – to ensure that students pass with flying colours and also that the course makes money.

"The course is something which will enhance Elmwood's reputation as a college to which students want to come and we want to be able to say to those students come to Elmwood and you can train on a real live golf course. It will help us retain our position at the top of the market."



Put a mobile phone in your life – compliments of BT and BIGGA



Mobile revolution

With over 2.7 million users in the UK alone, the mobile phone has become a familiar part of our working and social lives. HOWARD GRAY looks at the reasons behind the rise and rise of this unique technology.

Few modern technologies have had such a significant impact on working life as the mobile phone. Once the ultimate executive icon of the eighties, the mobile has quickly made the journey from status symbol to essential tool of business for anyone

whose work takes them out and about.

Statistics confirm just how popular mobiles have become since the launch of the cellular service in 1985. At the end of its first year in business, Cellnet (one of the two main network operators)

had just 25,000 customers – today, it has over 2.7 million. Across all the UK cellular networks, there are currently around 8 million digital and analogue mobile phone users, with over 12 million forecast by the year 2000.

What are the reasons behind

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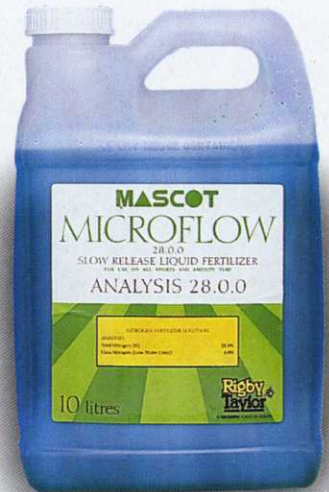
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e-mail, faxes and short text (SMS) messages from remote locations, as easily as if they were sitting at their desks.

Another popular network service is cellular messaging. Services like Cellnet Callback can be easily activated on your mobile and will answer and record all your calls when you're not able to, or when your phone is switched off. In this way you can ensure that you'll never miss an important message from a colleague or friend, and that you'll remain contactable throughout the day – even when you are out and about on the golf course.

Other factors too have contributed to the expansion of cellular usage. In real terms, the cost of buying and running a mobile has fallen dramatically since 1985. At the same time, tariffs – such as BT's Regular Caller Business tariff – have opened up mobile phone ownership to a much wider audience, allowing a cost-efficient way of being able to stay in touch.

Security is high on many people's list of good reasons to own a mobile, when travelling alone (perhaps at night) or when you are out on the golf course, a mobile is a reassuring link with the outside world.

■ To put a mobile phone in your life, please see the special offer from BT enclosed with this magazine.

8 ► this boom? Firstly, with the growing trend towards mobility in the workplace, the advantages of improved contactability are clear; staying in touch when on the move can have a significant effect on productivity, time management and customer service. People like yourself, who work out in the field can get on with their work and respond quickly to requests without having to keep returning to base to pick up messages. Getting the information you need, where and when you need it, results in better decision making and less wasted journeys – as well as better management control. These are the bottom-line benefits that no busy person can afford to ignore.

The last decade has also been one of technological innovation. The breakthroughs that have contributed most to rising market demand are new digital technology and the development of more advanced handsets.

Analogue was the cellular technology of the day in 1985, but the more recent digital service has quickly become the preferred choice for many (especially business) users, as it offers major benefits such as superior call quality and security, and access to a range of network services such as digital Mobile Data (ie sending and receiving data and faxes via

your mobile phone).

Digital also allows you to use your phone when abroad, in countries where the UK mobile operator has a 'roaming' agreement with a foreign digital (GSM) network. So for example, BT Mobile customers connected to Cellnet's digital service can currently make and receive calls in over 70 countries around the globe.

With around eight million international business trips now made every year from the UK, this roaming facility is widely popular with those in the tourist and leisure industry in particular, as well as a growing number of holidaymakers. If you're staying in a hotel abroad, your mobile can actually save you money – recent research commissioned by Cellnet shows that it is cheaper to phone the UK from your GSM mobile than from a hotel phone in 10 out of 11 countries surveyed.

Handsets themselves have come a long way from the chunky models of a few years ago. Thanks to advances in microchip and battery technology, most modern mobiles are small and light enough to comfortably carry around in your pocket, and have a range of features unthinkable just a few years ago. Most models offer a range of accessories, such as hands-free car kits which allow

you to use your mobile safely while driving.

Recent developments such as the Nokia 9000 Communicator have taken handsets a quantum leap forward by combining a mobile phone and data terminal in one compact unit.

However, anybody with a digital mobile can use the service by connecting their phone, via a credit-card sized data/fax card, to a laptop PC. Users are able to connect, to transmit and receive

