

A RETURN TO HAND MOWING

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IT IS well known that the first golf courses relied upon 'nature's greenkeepers,' such as rabbits, sheep and cattle, to maintain grass at a reasonable level. Indeed, the earliest greens were sited on areas inhabited most intensely by animals.

The comparatively recent invention of the cylinder mower heralded a new age. They required brute strength to push and pull and some were so heavy, horse power had to be utilised. Grouped together, cylinder mowers formed gang mowers.

Lighter models came in to cut greens and eventually engines were fitted to drive the cylinders, cuts per yard being dictated by the operator's walking speed. Finally, self-propelled mowers were developed.

The arrival of the Ransomes Overgreen enabled the task of cutting greens to be speeded up and also developed a new mowing pattern of half light and half dark, similar in appearance to fairways mowed with trained gangs. The Overgreen was the first 'triplex' and, having no hydraulics, required great skill by the operator to turn at the ends, which produced a unique mowing pattern.

Many golf clubs stuck to pedestrian mowers until the early 1970s when the first modern triplexes arrived from the USA. At this time, Britain was suffering from inflation and a wages explosion. Triplex mowers could replace men and save time. Well, that was the theory!

The popularity of triplexes grew along with the increase in the popularity of golf which, with the increase in the number of players, put pressure on pedestrian mowers. Inflation's spiral continued and more clubs bought triplexes. There were more golfers, more competitions,

more pressure for greens to be cut at weekends.

The now discredited green-keeping practices of these times, over-watering and over-fertilisation, increased the need for more frequent cutting of 'lush' greens, so more clubs bought triplexes. Hand mowers almost disappeared, some clubs had none.

Triplex mowers had now become the norm and there were some benefits. Scarifying and verti-cutting were much easier. Frequent cutting and an early start enabled greenkeepers to keep ahead of play. However, all was not wonderful with triplex mowers. The constant clean up pattern around greens caused a new bogey - 'Triplex Ring'. Damage to turf on collars and approaches brought wear to these areas and, worst of all, hydraulic leak damage.

Meanwhile, in America, the land that spawned the modern triplex, many clubs returned to pedestrian mowing. It's now the norm for the majority of wealthier clubs.

Progress in the USA, as we have seen, has advanced the triplex mower from cutting greens and approaches, to cutting and boxing off clippings on fairways. This policy has found its way across the Atlantic. Walter Woods now cuts the Old Course fairways at St Andrews using triplex mowers and with encouraging results.

In the UK, while the triplex revolution was under way, the pedestrian mower maintained one bastion, the professional tour. The PGA European Tour, paying lip service to consistent course preparation, encouraged all tournament venues to cut with pedestrian mowers, as did the R & A for Open Championships, although Royal Lytham in 1979 and Royal St George's in 1981 were exceptions.

West Malling Golf Club was built as recently as 1974 and really knew no other mowing practice than the triplex. While preparing last year's budget, I estimated

that the two triplexes owned by the club would need replacement. They were both ageing and, during 1984, had proved unreliable.

In recent times, the almighty dollar had outshone the pound and this dramatically altered the cost of new American triplexes. Enquiries showed an almost weekly increase in prices. Spare parts, always expensive, had reached absurd levels. One glance at repair bills helped me to decide that an alternative should be sought.

Pedestrian mowing always appealed to me. Apart from the generally accepted improved appearance of greens cut by hand, I had always enjoyed operating these machines for the feel and closer contact you achieved with turf.

My trip to Windsor in 1984 allowed a thorough investigation of all available pedestrian mowing machines, costs and availability, along with current prices of triplexes.

After opting for a return to pedestrian mowing, I approached my maintenance crew with some ideas and a discussion of the practicalities ensued. I was very pleased by their enthusiastic response and now had to convince the club management that our new ideas would be of substantial benefit to all.

I worked out my case carefully. With five staff, we would need five mowers. I prepared a chart showing comparative purchase costs (fig 1). Annual service costs would be an important factor and so was the average life expectancy. As can be seen, the capital cost per year, the initial cost divided by the likely lifetime, showed a considerable saving for five pedestrian mowers against one triplex.

The next thing to consider was labour costs (fig 2). At West Malling, we have 20 greens - 18 on the golf course, a putting green and a practice chipping green. Triplexes seemed to have good labour cost advantages, but if

COMPARATIVE PURCHASE COSTS

| | TRIPLEX | WALKING |
|-------------------------|----------------------|---|
| NEW MACHINE (APPROX) | £10,400 | £1010 x 5 = £5,050 |
| ANNUAL SERVICE COSTS | £800.00 | £160 x 5 = £800.00 |
| AVERAGE LIFE EXPECTANCY | 5-7 YEARS | 8-10 YEARS |
| CAPITAL COST PER YEAR | £1500-£2080 PER YEAR | £101-£126 PER YEAR x 5 = £505-£630 PER YEAR |

Fig. 1.

men and mowers were being sent to all parts of the course, we performed numerous other essential tasks (fig 3). In order to transport men and equipment about the course, we looked at what we had available.

As one area could easily be covered by walking, we needed four vehicles. The Cushman was an obvious choice. We had an old van that could cope with another area. Two tractors could be used with existing trailers to complete the transport arrangements at no extra cost to the club.

Fuel requirements for these would be minimal, two being diesel powered. Regrettably, apart from special events, such as the captain's day, club championship and open events, it is impractical to bring in all the staff to

cut at weekends. Therefore, both sets of figures in fig 3 take account of triplex mowing at weekends.

It is assumed that the average regular mowing season lasts about 32 weeks, so it can be seen that, by incorporating other golf course tasks into the mowing pattern, the increased efficiency of labour usage produced another saving.

In order to achieve this, however, it was necessary to purchase extra hole cutters, lifting hooks, rakes, etc. A large part of our 1984 budget had been spent on spare parts and fig 4 shows a comparison of spare part costs and a fuel cost comparison. This saving multiplied by five days per week over the 32-week season shows a fuel saving cost of some

COMPARATIVE LABOUR COSTS

| TRIPLEX | WALKING |
|--|-----------------------------------|
| 20 GREENS = 1 MAN x 3.4 HOURS x £2.80 PER HOUR = | 5 MEN x 1 HOUR x £2.80 PER HOUR = |
| = £9.52 PER DAY | = £14.00 PER DAY |

Fig. 2.

£300 per season.

Most important was how we intended to divide the work. Initially, we decided to allocate each an area to look after, but consideration had to be given to variations in ability among the crew. If we could develop a rota system, not only would interest in the entire course be maintained by all the crew, but a poor performance or less well-adjusted machine would not be confined to one area and each green would only be treated this way once a week. (In fact, there is little evidence of performance variation.)

In order to minimise interference from, or to, golfers, we needed to ensure that we stayed ahead of play. We have two starting points - the 1st and 10th

Fig. 3.

| OTHER GOLF COURSE TASKS | | |
|---|---|-----------------------|
| BUNKER RAKING | | |
| UNDER TRIPLEX MOWING REGIMÉ 2 MEN x 3 HOURS x £2.80 = £16.80 PER DAY | UNDER WALKING MOWER REGIMÉ 5 MEN x .33 HOURS x £2.80 = £9.24 PER DAY | |
| CHANGING HOLES & TEES (TWICE WEEKLY) | | |
| 1 MAN x 2.5 HOURS x £2.80 = £7.00 2 x PER WEEK = £14.00 | 5 MEN x 3.3 HOURS x £2.80 = £4.82 2 x PER WEEK = £9.24 | |
| WEEKLY MOWING COSTS INCLUDING OVERTIME (x7) | £77.64 | £100.00 |
| WEEKLY HOLES & TEES | £14.00 | £9.24 |
| BUNKER RAKING x 6 | £99.00 | £61.20 |
| OVER ALL COST PER 7 DAYS | £190.64 x 32 WEEKS | £170.44 x 32 WEEKS |
| £6100.48 | £5454.08 | |

Fig. 4.

| COMPARATIVE COSTS OF COMMON REPLACEMENT PARTS | | |
|---|---|--|
| | TRIPLEX | WALKING |
| BOTTOM BLADE | £21 x 3 = £63.00 | £8 x 5 = £40.00 |
| EXCHANGE ENGINE | £815.00 EACH | £175.00 EACH |
| TYRES | £68.00 EACH | N/A |
| HYDRAYLIC DRIVE MOTORS | £270.00 EACH | N/A |
| STARTER MOTOR | £136.00 | N/A |
| FRONT ROLLER BEARINGS | £24.00 EACH | £3.80 EACH |
| FUEL CONSUMPTION PER 18 HOLES | £0.82 GALLONS PER HOUR x 3.4 HOURS = £2.78 | £0.13 GALLONS PER HOUR x 5 x 1 HOUR = £0.65 |

A RETURN TO HAND MOWING – CONTINUED...

West Malling holes.

A rota scheme that encompassed our important ideal of daily mowing was evolved. Fig 5 shows it with a five-man crew, five-day week and 20 greens. This gives each man four greens per day and easily lends itself to a five-week rota. We divided each area into a route and decided that we should all take one of the greens played first. As a starting point, the figures to the right indicate the greens covered by each operator.

Starting at about 7am each morning, holes 1, 2, 10, 11 and 12 are cut first. By 7.30am, holes 3, 4 and 13 are cut well ahead of play. The figures under bunkers are the number on each hole and the total is for the route. Tees are changed as the men pass by on their route.

On day one of week one, operator one works route one. On day two of week one, he works route two and so on. The others move around as indicated. With this information clearly presented, the club management readily agreed to try hand mowing.

The system has worked even better than expected. Starting daily at 7am, we can cut all 20 greens, rake all 53 bunkers and, when necessary, change all holes and tees and be back in the shed before 9am, well in front of any golfers. Should anyone be on

| DAILY GREENS MOWING ROTA | | | | | | | | | | OPERATOR | | |
|--------------------------|-------|-------|-------|-------|-------|--------|-------|------|---------|----------|---|----|
| WEEK | ROUTE | ROUTE | ROUTE | ROUTE | ROUTE | GREENS | ROUTE | TEES | BUNKERS | HOLES | 1 | 2 |
| MON | 1 | 2 | 3 | 4 | 5 | 1 | 1 | 2 | 3 | 4 | 5 | 6 |
| TUES | 5 | 1 | 2 | 3 | 4 | 2 | 2 | 3 | 4 | 5 | 6 | 7 |
| WED | 4 | 5 | 1 | 2 | 3 | 3 | 3 | 4 | 5 | 6 | 7 | 8 |
| THUR | 3 | 4 | 5 | 1 | 2 | 4 | 4 | 5 | 6 | 7 | 8 | 9 |
| FRI | 2 | 3 | 4 | 5 | 1 | 5 | 5 | 6 | 7 | 8 | 9 | 10 |
| TOTAL 8 | | | | | | | | | | | | |
| CHIPPING GREENS | | | | | | | | | | | | |
| MON | 5 | 1 | 2 | 3 | 4 | 1 | 1 | 2 | 3 | 4 | 5 | 6 |
| TUES | 4 | 5 | 1 | 2 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 |
| WED | 3 | 4 | 5 | 1 | 2 | 3 | 3 | 4 | 5 | 6 | 7 | 8 |
| THUR | 2 | 3 | 4 | 5 | 1 | 4 | 4 | 5 | 6 | 7 | 8 | 9 |
| FRI | 1 | 2 | 3 | 4 | 5 | 5 | 5 | 6 | 7 | 8 | 9 | 10 |
| TOTAL 8 | | | | | | | | | | | | |
| PUTTING GREENS | | | | | | | | | | | | |
| MON | 4 | 5 | 1 | 2 | 3 | 1 | 1 | 2 | 3 | 4 | 5 | 6 |
| TUES | 3 | 4 | 5 | 1 | 2 | 2 | 2 | 3 | 4 | 5 | 6 | 7 |
| WED | 2 | 3 | 4 | 5 | 1 | 3 | 3 | 4 | 5 | 6 | 7 | 8 |
| THUR | 1 | 2 | 3 | 4 | 5 | 4 | 4 | 5 | 6 | 7 | 8 | 9 |
| FRI | 5 | 1 | 2 | 3 | 4 | 5 | 5 | 6 | 7 | 8 | 9 | 10 |
| TOTAL 13 | | | | | | | | | | | | |
| CHIPPING GREENS | | | | | | | | | | | | |
| MON | 3 | 4 | 5 | 1 | 2 | 1 | 1 | 2 | 3 | 4 | 5 | 6 |
| TUES | 2 | 3 | 4 | 5 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 7 |
| WED | 1 | 2 | 3 | 4 | 5 | 3 | 3 | 4 | 5 | 6 | 7 | 8 |
| THUR | 5 | 1 | 2 | 3 | 4 | 4 | 4 | 5 | 6 | 7 | 8 | 9 |
| FRI | 4 | 5 | 1 | 2 | 3 | 5 | 5 | 6 | 7 | 8 | 9 | 10 |
| TOTAL 12 | | | | | | | | | | | | |
| CHIPPING GREENS | | | | | | | | | | | | |
| MON | 2 | 3 | 4 | 5 | 1 | 1 | 1 | 2 | 3 | 4 | 5 | 6 |
| TUES | 1 | 2 | 3 | 4 | 5 | 2 | 2 | 3 | 4 | 5 | 6 | 7 |
| WED | 5 | 1 | 2 | 3 | 4 | 3 | 3 | 4 | 5 | 6 | 7 | 8 |
| THUR | 4 | 5 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 7 | 8 | 9 |
| FRI | 3 | 4 | 5 | 1 | 2 | 5 | 5 | 6 | 7 | 8 | 9 | 10 |
| TOTAL 13 | | | | | | | | | | | | |

Fig. 5.

holiday or off sick, we have a four-man rota, which works almost as well. Adopting this system has given our ageing triplex an extended lease of life and taken the pressure off.

One machine is now used exclusively for collars and approaches and these areas have shown a vast improvement. We also use this machine for regular verti-cutting. The other machine's

role is to cut greens at weekends and to cover the other triplex should the need arise.

Running costs have improved. Fuel expenditure is well down, as is the purchase of spares. There are undoubted improvements in quality and appearance of greens. Pressure has been taken off the tees mower and I now have no fears of being caught out by mechanical breakdown as I have adequate back up in all areas. I have eliminated 'Triplex Ring' and collar damage and have ensured that tees and bunkers are looked after on a more positive daily basis.

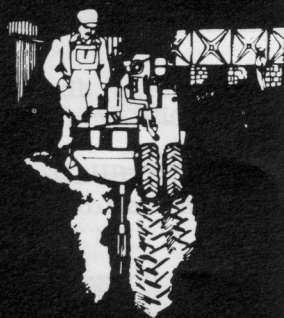
I have instilled a greater sense of pride and achievement in my crew, which now has more time for other maintenance tasks. For West Malling Golf Club, hand mowing works. It will probably work for your club, too. Sizes of greens, access problems, transport, availability of suitable, reliable staff will all need to be considered but, in my opinion, the balance has changed and, even if it costs your club more, the aesthetic and turf benefits make it well worthwhile.

After all, it is accepted that the single most important golf course maintenance operation, cutting the greens, is improved most by the quality of the cutting equipment employed, the skill of the operator and the frequency with which it is used!

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