

READY... but not Rough

ROLAND TAYLOR LOOKS AT THE
DEVELOPMENT OF THE ROUGH MOWER

The first golf courses must have been virtually made up of 'rough' with small islands of relatively flat turf for the greens. This is a far cry from the modern course. The golfers who played these old courses probably spent a great deal of time searching for their lost balls.



In recent years it has been reported on a number of occasions that professional players in major UK tournaments have complained about what is relatively light rough. Many of the manicured fairways and virtually non-existent 'rough' that fill our television screens show very little signs of any vegetation or blades of grass out of place. Most of these are not in this country. The 'rough' is part of the challenge of the game, but they also have other roles. A fair amount of management is required so it is not just a question of mowing to a specific height, a few times a year. Recently, there has been more interest shown in developing these areas to provide habitats for our native flora and fauna. To this end the introduction of wild flowers is just one aspect that some clubs have adopted. For these projects to be successful a control mowing programme is required that ensures the rarer species of plants are not destroyed by more aggressive and invasive varieties.



IN THE BEGINNING

Looking back in history it is clear why the rough evolved. Up until the early 1950's, apart from a manual scythe, the only type of machine available, for cutting long vegetation, was a mower with a reciprocating blade system. Originally horse drawn it was adapted for the tractor and used mainly in agriculture for hay cutting and as a binder for cereals. Some courses probably used this method of controlling their rough areas, but as the only other alternative was to scythe it by hand, one suspects it was more often left. The fairways were kept open by firstly using horse drawn gang mowers and later tractor towed units or the larger self-propelled mowers.

ONE MAN WENT TO MOW

The rotary mower had first been introduced as a domestic machine just before the second world war but it was not until the early 1950's that it began to become established as an alternative method for mowing turf.

In this country the development of the rotary system was largely due to Douglas Hayter. From a small factory at Spellbrook on the Hertfordshire/Essex border he introduced his first machine, a 24" pushed rotary mower. The famous Hayterette quickly followed this, but both these units were aimed at the owners of large gardens with orchards. In talks with a Bishop's Stortford agricultural dealer it was decided to develop a tractor mounted rotary mower for use in orchards. Apple production was prolific along the Suffolk/Essex border and throughout Kent and Cambridgeshire so the potential market for this type of machine was encouraging. At this time golf courses were few and far between. A prototype machine was built around the little 'Grey Fergie' which was the most popular tractor for orchard work because of its size. At one of the Essex Agricultural Shows in the early 1950's Hayter launched their 6/14 tractor mounted rotary mower - the first of this type of machine in the world. It consisted of a PTO and belt driven 6-foot main unit with three rotary cutting heads. To this could be added wing units that then made the total width of the mower 14-foot. Swing-wings were also available which, when they came in contact with a fixed object, would fold back. This meant the machine could cut close to trees and fences.



Toro Groundsmaster 325-D out-front rotary mower

The 6/14 was an immediate success in the market that it was originally designed for - orchards. Large areas of long relatively dense vegetation could be mown down in a relatively short period of time and it was not long before other possibilities for this machine began to surface. One of these was 'the rough' on golf courses. Here was a method of taming these areas that was fast and easy. As with all things, it was not long before other manufacturers introduced alternative rotary machines and today there are plenty of these types of mower available.



The Allen Hover Mowers Powered by Honda Engines

Three models are in the range each benefiting from the easy starting smooth and quiet running of the Honda power packs, which can go anywhere a 2-stroke can.

The usual features of Allen hovers are retained, strong duty handlebar fixing to the deck, engine mounting frame giving less vibration and less damage to engine/deck in heavy duty conditions.

Tapered cone fixing of impeller to crankshaft means this item can be removed easily and without the use of pullers with resulting damage.

Ergonomically designed handlebars give more comfortable and hence less tiring grip, and are easier for side to side mowing.

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READY... but not Rough

THE CUTTING SYSTEM

At this stage it is worth looking at the factors that make the rotary principle effective and efficient.

Its action is similar to manually using a scythe without all the time, sweat and energy this method requires. Blade revolving speed is critical for the finish and ejecting of the cut material. It must be at least 3,000 rpm, which means the blade tip will be travelling in the region of a 130-mph. There are a number of factors that alter this speed. Because the blade is generally working in dense growth the revolutions can slow down very quickly. This places a considerable loading on the engine. If the governors do not react immediately the drop off continues until the unit comes to a halt. The grass is torn rather than cut and flow of scythed material is not ejected so a blockage occurs in the system. This situation will occur when a machines cutting height is set too low for the crop being cut. Where the vegetation is long it is quicker and less stressful on the machine and the operator to mow it down in stages.

SHARPNESS

Another factor that greatly changes the mower's performance is the sharpness of the blades. A rotary will tear and hack down grass even when it is relatively blunt. This is highly dangerous and it places considerable strain on all the machine's components. Exhaust and noise levels plus fuel consumption increase rapidly. With a powerful tractor driving the mower it is easy to overlook the fact that the cutting mechanism may be blunt or damaged. Blades will need balancing after sharpening otherwise vibration occurs which, if left unchecked, becomes unsafe and will eventually shake the machine to bits

SCALPING?

Because the rotary blade works on a horizontal plane the question of scalping does often arise. Obviously, the wider the machine the more chance of this happening. To help overcome this problem there are mowers on the market that are made up of a series of small independently floating units each with their own cutterhead. These are said to follow the ground contours closely without scalping.

HEIGHT AND FREQUENCY

The correct cutting height is important. Some users discovered early on that regular rotary mowing would, over a period of time, produce a lawn type finish, especially where machines are continually set low. This aspect is particularly important when managing wild flower and plant areas. They require a different schedule to that of cutting the 'rough' that is only being maintained



Lastec Articulator

at a specific height. The mowing frequency is probably less and at certain times of the year, for instance, in the case of bulb areas, these are best left until after all the foliage has died down which is generally sometime in June or early July. In the case of wild flowers mowing usually takes place after the flowers have seeded. In both these examples the cut vegetation needs to be removed.

COLLECTING

There are plenty of rotary mowers available with collecting facilities, but the thing to watch out for is their efficiency in performing the operation. A yardstick to use when looking for this type of machinery is check the size of the outlet aperture and how many obstacles the cut matter has to travel through or over before it reaches the collector. The shorter the distance between blade and the rear of the box and the bigger the opening the better. Vegetation is not always dry and if very wet it can quickly block up a collecting system so you need a machine that will efficiently collect in these conditions.

FLAIL

The flail mower is an alternative method of mowing rough areas. They use a series of flails or knives mounted on a drum. Again, speed is important to the machine's efficiency, mainly because flails are not cutting against a fixed blade; they are travelling vertically into the vegetation. This absorbs a lot of engine power. The action of the cutting mechanism tends to lift the cut material and throw it backwards hence the reason that flails generally have a rear collector. Compared to a rotary a flail tends to be slower, but will often take denser amounts of matter such as heather. The smaller units on long reach arms are excellent for getting into confined spaces and mowing banks and ditch sides.

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John Deere 1600 Turbo

Blade balance is critical, and any damaged flails should be replaced as soon as possible. The drum is mounted on bearings and if it becomes unbalanced, the vibration that occurs will quickly damage the machine and make it highly dangerous. Cutting height is also important. If it is too low the same effects will occur as they do with a rotary and the chances of scalping are increased.

GANG MOWERS

Some rough can be, and probably is, mown using gangmowers. These usually have fewer blades in the cylinder than those used for cutting fairways. As with all cutting mechanisms how sharp they are is the major factor. As this type of system is likely to take a fair amount of hammering it should be checked at regular intervals for any signs of damage or wear. Back lapping is only a temporary measure and at the earliest possibility the cylinder and bedknife will need grinding.



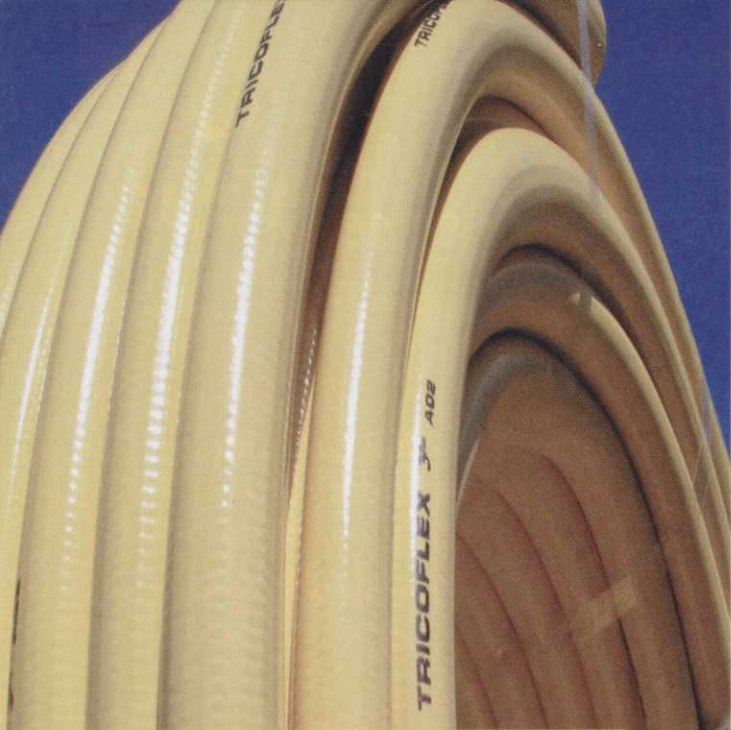
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**READY...
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New Holland MC35

COMPLETE PICTURE

Often a course is an oasis in an intensive agricultural or suburban landscape and 'the rough' is the dividing lines between where man made and maintained areas meets nature and a haven for flora and fauna. It is like a frame round a picture, with the tees, fairways and greens as the subject. If presented right the contrast enhances the appearance of the course. With the machinery now available, this is relatively easy to achieve, so it is worth spending time shopping around to ensure you find the right ones that match your specific requirements.

Thanks to Ray Goodsall, Course Manager at Saffron Walden GC, for his co-operation in the taking of the photographs.



Jacobsen HR-4600 Turbo