### International Spotlight on the latest mowers

EDGE

Pictures, clockwise from top: Bi-Speed Turn on Kubota's F2400 mower automatically speeds up the driven rear axle to

improve turning and minimise turf damage Automatic or manual

F2400B

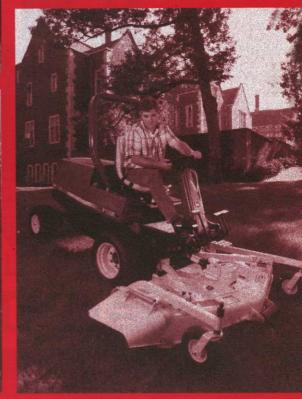
KUBOTA

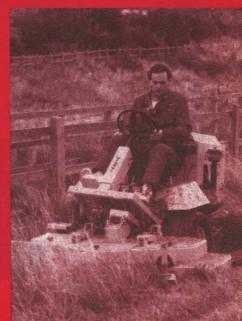
selection of four-wheel drive is possible on the John Deere F1145 front mower

 Turf Blazer 727 from Huxleys has a choice of 1.5m or 1.8m rotary mowing decks

 Three cutting decks on the Ransomes T-51D Rider Rotary give a maximum mowing width of 3m

 BCS Tracmaster's Bank Commander can be used safely on slopes of 60°







MICHAEL BIRD reviews the latest mower developments for keeping larger, longer, tougher grass areas neat and tidy

**C** ontinuing refinement in the design, specification and operation of cylinder, rotary and fail mowers is making the task of maintaining large areas of grass increasingly more of a pleasure than a burden. Although the basic working principles of the cutting mechanisms have changed little over the past 30 years, the technical improvements introduced on both ride-on and pedestrian machines during the last decade means that there are few excuses for poorly maintained fairways, semi-rough or rough.

Assuming that funds are made available for routine re-investment in new equipment, then lack of training, mower maintenance or interest in the work are the three principal reasons why grass is not cut to a consistently high standard. In very few cases is the design of the machine at fault, particularly in the case of mowers built specifically to tackle medium to large areas of longer grass.

Developments in these machines continue apace on both sides of the Atlantic. The American passion for fairways which look like greens means that most of the big ride-on cylinder mowers finding their way onto British courses already have one or two seasons' work under their belts. This is no bad thing, especially on a unit which can cost upwards of £20,000. The latest arrival from the USA carrying the Jacobsen badge is the LF3810 Fairway Mower, a five unit self-propelled machine with a cutting width of 3m (10ft). Bringing to three the number of fairways mowers from Jacobsen, the LF3810 is powered by a 38hp diesel engine driving the wheels through a step-less hydrostatic transmission. Five or 10-blade reel options are available and the mower can be operated with three, four or five units in work

There are few things more infuriating than an unnoticed oil leak to turf professionals. To eliminate this possibility on the LF3810, Jacobsen fits its Green Sentry leak detector as standard to the mower. The unit, which is built in to the main hydraulic system, is able to detect oil losses of as little as 85ml by means of a flow switch which monitors oil flow between two tanks. Because it uses a combination of volume and time, this system is able to differentiate between oil 'loss' from the tank caused when extending an hydraulic ram and a genuine oil leak from a joint, union or hose. Also, thanks to a temperature sensitive timer, the Green Sentry is able to compensate for the easier, faster flow rates of hot oil. The unit comes with a platformmounted console which has a caution light to warn when flow exceeds a certain level and a horn which sounds after a pre-set time, indicating that the flow is continuous, as with a leak.

John Deere's 3365 professional turf mower is the company's first machine to feature the new ESP cutting unit. Standing for 'extra strength and precision', the unit has an improved adjustment system designed to maintain height of cut irrespective of bumps and shocks. Reels and bedknives are made of induction-hardened high impact steel, said to retain an edge longer while the reels are mounted in self-centring Timken roller bearings. Available with six, eight or ten bladed reels, the five unit 3365 has a 3.5m (138in) cutting width and is equipped with a 38hp diesel engine with cruise control.

A choice of two four-wheel drive functions is available on the new John Deere 24hp F1145 front rotary mower. 'On-demand' 4wd automatically engages and disengages according to ground conditions, reducing tyre wear and fuel consumption, while 'full-time' provides maximum traction in poor conditions. The latter can be selected by the operator on the move, even in reverse gear.

Said to have been designed to cope with 'world grass growth conditions', the new Fairway 300 from Ransomes has hydraulicallydriven cutting units based on those used on the successful Motor 180D machine. Both height of cut and the cutting cylinders can be adjusted without spanners. Width of cut is 2.9m (114in). Powered by a 38hp diesel engine, the Fairway 300 has four wheel drive as standard. An even bigger diesel engine – 51hp – is used in the latest top of the range Rider Rotary from Ransomes. Equipped with three rotary cutting heads spanning 3m (117in), the T-51D is designed for high output work on larger areas of longer grass.

Toro has replaced its RM223-D lightweight fairway mower with the RM5100-D, a five-reel ride-on machine with a 23hp = 30



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## CUTTING EDGE

29 → diesel engine, hydrostatic transmission and choice of two or four wheel drive versions. The main feature of the RM5100-D compared to its predecessor is a new electronics system known as Automated Control Electronics (ACE). This system is centred on solid state electronics which govern many of the mower's functions for improved operation, reliability and ease of servicing.

Examples of ACE's features and capabilities include electronically actuated hydraulic spool valves; fully automatic monitoring and adjustment of reel speed in line with forward speed; and centralised diagnostic monitoring to pin-point machine problems quickly and more economically. Also standard on the RM5100-D is a spring-loaded positive down pressure system for the five or eight bladed cutting units. Adjustable to four positions in 8lb increments, it increases downforce to maintain cutting reel height over varying terrain. Toro is also playing its part within the environmental movement, producing a rotary cutting deck which recycles clippings into the turf. Known as the Guardian, the 1.8m (72in) deck produces no external discharge, making for safer mowing and reduced mess. Special internal deflectors recycle the grass within the hood causing it to be cut and re-cut, finally forcing the clippings down into the turf. The Guardian can be retrofitted to all Toro Groundmaster 300 Series machines, except the 327.

Tractor lift kits are now available for the Beaver Articulator rotary mower from Hayter's. Using the tractor's hydraulic system or an optional 12 volt power pack, the kit safely raises the mower to give a ground clearance of up to 61cms (2 ft) for convenient movement between sites, reducing wear on the machine's caster wheels and axles. Blade changing and cutting height adjustment is also made easier by the lift kit, as is access for cleaning and servicing. The Articulator consists of a series of independently floating rotary mowing decks able to closely follow



Both sides of the Turner Turf Trim's fine cut flail can be used to maximise working life

# Fine cut flails 'a practical alternative to cylinders'

ground contours across working widths of 2.2m or 3.05m (88in or 120in). Cutting heights are from 25mm to 120mm (1in to 4.75in) and power requirement from 25hp to 50hp.

If sheer engine power is the main requirement, there are few rotary machines which come near the 100hp produced by the Turf Blazer Hydro-Power 180 from Huxleys. This 5m (16ft 6in) machine heads a full range of ride on and pedestrian rotary mowers being introduced in the UK by the company. Of principal interest to the golf course user will be the Turf Blazer 727 powered by a 25hp Yanmar diesel and a choice of 1.5m or 1.8m (60in or 72in) cutting decks. Equipped with hydrostatic transmission, power steering and individual wheel brakes for tight turns, the mower offers cut heights from 38mm to 140mm (1.5in to 5.5in).

Kubota has announced two rotary mower developments for 1993. The first is a new 18hp lightweight (400kg) machine with a wheelbase of just 850mm for tighter turns in confined areas. Available with shaft-driven 1.22m or 1.37m (48in or 54in) side-discharge decks, the Fl900 will be available from this spring. The second Kubota development is the addition of Bi-Speed Turn to its F2400 18hp four wheel drive machine. Already proven on the company's compact tractors, Bi-Speed Turn automatically doubles the turning speed of the rear steering wheels when the steering angle exceeds 35deg. This is said to minimise turf damage caused by drag while producing manoeuvrability not normally associated with four wheel drive machines. The F2400 has hydrostatic transmission and can be equipped with a choice of rotary or flail mowing decks.

Fine cut flails are being promoted by Bomford Turner as a practical alternative to cylinders in areas where stones, molehills and other surface problems can greatly increase wear rate and downtime. The new Turner

#### 0-D designed specifically for and quality of out has to be

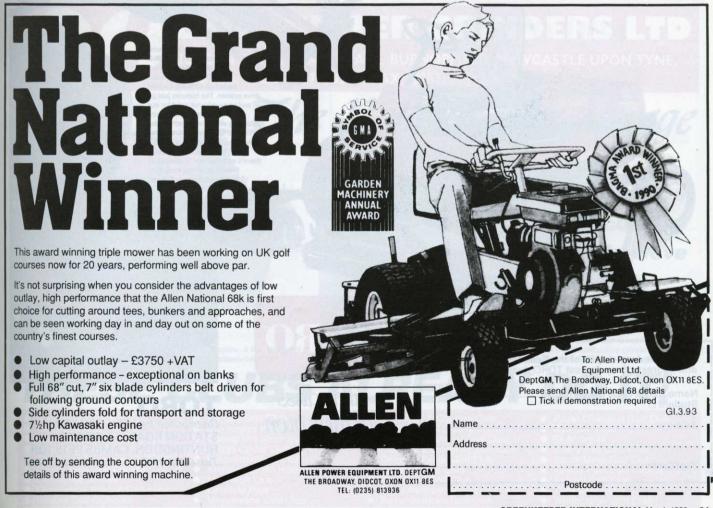
Turftrim with three fine cut flail heads spanning 2.1m (83in) is said to give a finish virtually indistinguishable from a conventional cylinder mower under most longer grass conditions. However, the flails are designed to be maintenance free, never needing sharpening. Powered by a 28.5hp diesel, the Turftrim is available in two or four wheel drive versions. both with hydrostatic transmission. For the traditionalist, the company also offers interchangeable cylinder and rotary mowing heads for the machine.

For users looking for low weight, good manoeuvrability, the ability to collect clippings and a diesel engine, the new Walker Model D mower distributed by Bob Andrews looks to have most of the answers. Equipped with a 16.5hp three cylinder diesel and



Jacobsen's LF3810 fairway mower has the Green Sentry oil leak detection system fitted as standard

hydrostatic transmission, the machine offers a choice of three rotary mowing decks all linked to an integral collector via a vacuum blower. Dual rear wheels are close coupled to maintain a minimum turning radius while reducing the risk of compaction on finer turf. There are always going 33



## CUTTING EDGE

31 + to be situations where a ride-on mower cannot be used due to its size, weight or the cutting conditions encountered. Work on steep slopes is a typical example. For such applications, the new Bank Commander from BCS Tracmaster has a low centre of gravity, dual wheels and power steering to produce a stable and controllable mower on inclines up to 60deg. Fitted with a choice of 1.09m, 1.32m or 1.52m (43in, 52in or 60in) scythe cutter bars, the machine has a floating head able to ride over undulations. It is powered by a 12hp petrol engine.



## 'Developments continue on both sides of the Atlantic'

Havter's Articulator consists of a series of independently floating rotary mowing decks able to closely follow ground contours

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