the merrier

are now better defined and faster, and as well as more frequent and closer mowing, many now have irrigation in part if not in their entirety so that they can be kept green. Visual attractiveness has become important on many courses, either because members are calling for the course to be "pretty", or because there is a need to attract players with more than just the quality of play. This too calls for more regular mowing and a better quality of cut. These changes have required many clubs to rethink their mowing strategy. Plenty of greenkeepers are now prepared to mow fairways two or three times a week, and while few box off clippings yet, except perhaps for a match, this is a possibility with most of the new ride-on fairway mowers. Better definition may also be necessary as semi-roughs are cut shorter to speed play.

The main manufacturers of golf



course machinery have all met the changing scene and now produce ride-on machines. They have also read the requirements for lightweight machines with generously sized tyres which allow cutting to be carried out with zero turf damage irrespective of ground conditions. Recent mild winters have allowed grass to continue to grow - thus needing to be cut. Nevertheless there are clubs where trailed ground drive gang mowers are used, usually because they cannot or do not want to justified the cost and complication of hydraulic drive to the cutting units. In any case most courses already have a tractor. Others have gone part way and use a tractor for the prime mover with hydraulic drive to the cutters. A sharp well set trailed cylinder unit, used regularly, should cope with fairway cutting without problem - and many will assert produce as good a result as any hydraulic unit. All the greenkeepers Greenkeeper International spoke with aspired to a self propelled dedicated fairway unit.

The Jacobsen LF128 at Saunton Golf Club, North Devon

Saunton has two links courses, and an important part of the club's needs were to buy a machine to relieve the work load on its existing fairway mower. That the new machine was the

ET US GIVE YOU THE CUTTING EI See us at IoG Haydock Park, Newton Stand 1 and 2

THESE CLIENTS ALREADY HAVE IT!

Jupiter. 42" capacity Mower Cylinder and Bottom Blade Grinding Machine. A truly 'brecision' grinder, built to last half a century. Used and preferred by

Professionals.



SATISFIED CUSTOMERS:

"Every forward thinking Golf Club should have a Juno in their workshop, a truly excellent machine." Mr. Mark Jones, Head Greenkeeper, Preston Golf Club.

"The Juno is an essential piece of equipment for any golf course workshop." Mr. Alistair Connel, Course Manager, Collingtree Club (formerly Course Manager at Cawdor GC).

"It is the best piece of machinery this course has ever invested in, a fine machine that I would recommend to anyone." Mr. John Bashford, Head Greenkeeper of the Green Hotel Golf Course, The

"A quality machine that gives a superb finish to our cylinders, and saves money." Mr. Derek Gree Head Greenkeeper of Royal Liverpool Golf Club.

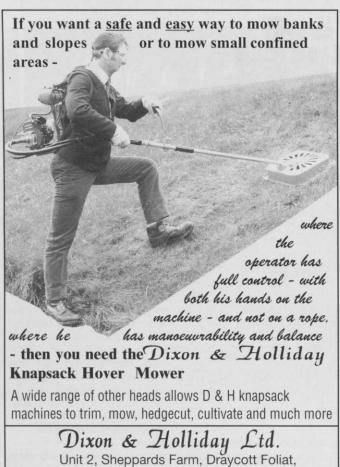


Juno 36". Will accommodate every make and type of professional cutting cylinder and bedknife. Can 'in-situ' grind many greensmower reels. Water cooled (eliminates dust and heat), simple and fast to use, accurate 'relief angle'



HOBSON INDUSTRIAL ESTATE, BURNOPFIELD, NEWCASTLE UPON TYNE NE16 6EB. TEL: (01207) 270316 FAX: (01207) 270312





Swindon, Wiltshire, SN4 0HX.

Telephone :- works 01793 741173, sales 01462 700547

Facsimile: 01793 741020



recently introduced Jacobsen LF128 is a comment on the LF100 which has operated on the course for five years with few problems. Prior to buying the first machine the club looked hard at a wide range of machines including trailed and mounted gangs and rotaries. Ray Day, Head Greenkeeper, stated that the important improvements over the older machine were the stronger and more reliable hoses and fittings, and four wheel drive. There were also other important detail improvements which added to the overall superiority. Four wheel drive was specified mainly for the odd occasion and slope when slip and the subsequent turf damage was a real possibility. To date it has been more of an insurance measure than a necessity. The machine has also greater clearance and this was seen as useful as there are a number of humps or mounds to clear to reach some of the fairways.

The '128' designation refers to the 28hp engine output, and this comes from a 3 cylinder Kubota diesel engine. Supplying distributor was MST at Tiverton, who has been very attentive but not yet required to prove an ability to supply urgent parts or service.

Ray commented that he found the machine very comfortable and easy to drive, a view echoed by the other greenkeepers who have used it. The pedal operated lift, hydrostatic transmission and steering made end of run turns quick and easy and this shows particularly on cross cutting.

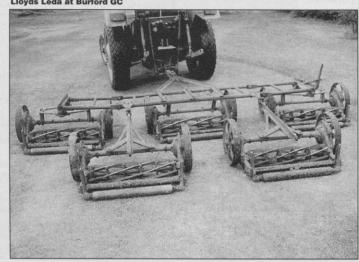
Prior to changing to dedicated fairway mowers the course had a tractor mounted set of gangs. Overall weight (of tractor plus mower) and a tendency to bounce when operating fast were the more important reasons for the change. Ground following is normally very good on the LF128 with a positive down pressure available on rear rollers, however severe undulations do result in some lift off. There are cutting five units, 22 inch wide to give a 100 inch overall cut and the 5 inch cylinders are seven bladed. Grass catchers were supplied as standard but have not been used. Normal summer cut height is 3/8 in. but this increased for winter, (and presumably dry spells). These heights are close to the middle of machine's range.

The club has a full time mechanic who undertakes all servicing, sharpening and most repairs. Routine servicing is simple, cutting units are easy to remove and so are back lapped weekly on the bench. Sharpening - relief grinding - is normally carried out twice a year, unless something untoward happens, like picking up a bolt, as happened when Greenkeeper International visited. There were no complaints on bottom blade wear, but the club uses genuine replacements, as they have found cheaper alternatives didn't last very well.

Lloyds Leda gang mower at **Burford GC**

Burford's set of standard Leda

Lloyds Leda at Burford GC



POSTCODE

TEL



mower units with their "golf course frame" were bought in 1968, since when they have had one major overhaul which cost around £3,000. Ground driven, the units are simple and extremely reliable, and this is a major part of their attraction. Head Greenkeeper, Barry Holt, stated that he is extremely happy with the quality of cut produced, and although he has tried powered gangs he still feels that the old Leda units are more than a match for them. During the growing season the fairways are cut twice a week.

Greens surrounds, approaches and etc. are usually cut with rideon tees triples which are more manoeuvrable than the trailed gangs. The course staff, limited to just five, means that cutting output is very important, and the Leda gangs give this.

The five gang unit, has cutters which are 30 inch (760mm) wide and have six bladed 7.5inch (190mm) diameter cylinders driven by 17inch cast steel wheels through gear trains. The size of the cylinders, their speed of rotation and the ample clearances means that grass is thrown well clear the rear roller and even in wet conditions there is no grass being picked up and then dropped off in a lump, a point Barry emphasised, so no scrapers are required. Setting the height is a simple spanner task, but is not often required. There is positive location which ensures level set-

Barry said that having a towed mower was no problem as there would always be a tractor available for trailer, loader and other work. Fitted with the correct tyres marking the turf has not been a problem.

Maintenance on the Leda units is extremely simple, a grease round about once a month with back lapping carried out perhaps twice a season and regrinding during the winter overhaul. This overhaul is carried out in-house and includes a complete strip of all assemblies and a check for wear on ratchets, springs and bearings. Bottom blades last several seasons and Barry believes that the units are still with their original cylinders. Some welding has been carried out on the

frames. The club is split by a road but lifting the units for transport across this is quick and easy.

The John Deere 3235 at Manor House Hotel GC & CC - Castle Combe.

"Greens quality finish" was a major requirement for Course Manager, Paul Bishop, at Manor House Hotel G&CC. Other necessary features included hill safe four wheel transmission, user friendly operation and servicing, and a supportive dealer backed by an efficient parts service.

The club is owned privately by the owner of the Manor House Hotel and as such needs to attract and retain discerning golfers. Location in the Cotswolds area of outstanding natural beauty means that the quality of landscaping and overall visual attraction are a vital ingredient of the course, and one which Paul is working hard at enhancing, hence his preoccupation on quality of finish. Cross cutting is a must.

John Deere offers two engine powers and two cutting unit specifications to suit all golf courses world wide, Manor House's selection of the 32hp (Yanmar diesel) engined version with standard 5inch, 7 blade cylinders perfectly reflected the use anticipated – temperate climate and high quality cutting. The 5inch cutting units, with rollers front and rear, have a short 'wheelbase' so follow ground contours better than the larger units.

In keeping with the requirement for quality finish and stripes, the machine has hydraulic down pressure, which is set using a key thus preventing the operator adjusting or misadjusting it during work. This pressure will be reduced or removed for winter work.

Transmission is hydrostatic with four wheel drive automatically engaged when required, however an important consideration at Castle Combe was the fact that the drive is positive, so that de-accelerating gives positive braking to all four wheels, something which Paul considers is essential on the course which has some considerable slopes. A "Roll Over Protection System" has also been fitted, with a roof giving the

greenkeeper some protection from sun or rain. Grass catchers are available but not purchased while fairway groomer and verticut attachments are options for the future.

Ease of operation, with one touch singe lever lift/pto engagement and two-pedal speed/direction control, was another reason for selecting the JD 3225. All the four greenkeepers who have used it like it, and all rated it as extremely manoeuvrable.

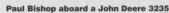
Operators undertake their own daily servicing, checking levels and greasing round etc, while the club's mechanic undertakes other service routines. Back lapping, carried out in-situ using the machine's reverse drive facility, is undertaken approximately every other week, while full sharpening is not expected to be required more often than once a year.

Quality of design and build were other factors on which Paul made comment. In particular he commented on the fact that all hoses were well routed (over the units), clear of the ground and fully protected. His only disparaging remark concerned the parking brake lever which sometimes drops under the pedals.

Huxley HD138 hydraulic reelmower at Andover GC.

Andover is only a 9 hole course, private and with limited means, this meant that whatever it buys on its limited budget has to be cost effective and have a long life expectancy. The club has close and favourable relationships with Huxleys - "they have always treated us well and we have always had favourable deals" said Tony Broad, Chairman of the Greens Committee, "thus it was natural that we should look at their products". Nevertheless a range of machines was considered before the club bought the Huxley HD 138 hydraulic reelmower for the 1995 season. Huxlevs also took the previous gang mowers, which "were falling apart", and gave a very generous allowance.

Greens staff is two and a half, thus as well as being reliable any fairway mower had to have a reasonable output. In the event Andover has cut its fairway mowing time down from eight hours







Our greenkeeper.

Truly way out in front, the T44 is the self-propelled gang mower. The only choice you need to make is 10" fixed or 8" floating heads with 6,8 or 10 knives.

Ample power, advanced controls, weight transfer, four-wheel drive and differential lock combine to make this machine your perfect greenkeeper.

To proceed further in your quest for perfection, call us today for full details and to arrange a demonstration.



HAYTER

Purpose built - Precision made



Huxleys HD138 Hydraulic Reelmower



to about five since using the new units. Chris Sturgess, Head Greenkeeper, said that as well as saving time this was also saving fuel. No less important was the fact that the new mower gave a far superior quality of cut.

Cutting width is 138inch, with five 30inch wide, 8inch six bladed cylinders, driven hydraulically from a pump mounted direct on the tractor's PTO. The cutting units are mounted on a trailed carrier which also carries the oil reservoir so making the whole outfit quick to attach and detach, and, because there is no PTO shaft, relatively manoeuvrable. Andover GC's HD138 has the twinroll option which allows the cutters to 'float'. Chris said that they have not found any tendency to bounce. Cutting the practice area (the only suitable place with grass) in damp conditions did show some clumping of the clippings, however the wire scrapers were very effective, and Greenkeeper International was assured that no clumping has been seen on the fairways. The club's Ford 1920 compact tractor was more than capable of handling the mower, (35hp + is recommended) and even operating in far from ideal conditions on a site which sloped significantly there was no sign of slip or loss of control, although the driver was given the warning "take care when turning".

Maintenance is limited to a weekly grease of the few nipples plus a visual check of oil level and the condition of the hoses. At the time of writing there had been no problems, Huxleys had made a post installation service check and tightened up one hose. The sharpening regime is to backlap as necessary with relief grinding undertaken by the supplier during the winter service. Tony reckons that the technology of this mower is far enough advanced to allow the club to take the machine into the next century. The assumption is for a ten year life, and written down over this period, unless repair and maintenance costs spiral, Andover GC and both Tony and Chris are satisfied that they have value for money and inexpensive fairway mowing.

Ransomes Hydraulic 5 at Leeon-Solent Golf Course

Lee-on-Solent GC's fairway mower is now six years old, and likely to be replaced within the next two seasons. Head Greenkeeper, Stephen Pellatt, while not committing the club, said it is likely that the next mower will also be a Ransomes Hydraulic 5 just on the past record of this machine and the supplier, Rowes of Chichester. Tees triples are used for approaches and aprons which removes any problem of manoeuvrability around greens

Turf grass scientists created a term to describe the unique mechanism they identified whilst examining the performance of Netlon Advanced Turf plots.

Self-cultivation

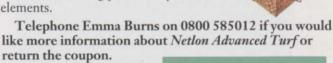
Self'-cultiva'tion (n. the effect of small polypropylene mesh pieces as they flex within a free-draining rootzone material to create and maintain voids and to resist soil compaction. The mechanism takes place as the surface is compressed during play, maintenance or by other activities.

Maintaining health and minimising damage

> You will not find the term selfcultivation in any dictionaries at the moment, but you will find evidence of its effect on tees, greens

and paths. There will be deeper root penetration, higher

infiltration, greater divot resistance and faster recovery rates due to the stability and root anchoring provided by the



Netlon Advanced Turf Systems, Netlon Limited, Kelly Street, Blackburn, England BB2 4PJ Telephone: (01254) 262431 Fax: (01254) 694302

ed in the UK, the USA & other countries. A & other countries. m is the registered trade mark of Netlon Limited in m Advanced Turf is patented in the UK, the USA &

Name	Liev Tilgil Jenny Jonnes	GI.9.95
CompanyAddress		
Postcode	Tel:	F

An all new model from the ground up to keep your greens down.



'FlashAttach' reels.

Take the most popular greens mower in the world and make it even better. Rebuild it from the ground up and you get the all-new Greens King V.

We fitted the Kubota 19HP engine for improved performance and a high transport speed of 7.5 mph. And it's quieter.

The new 'FlashAttach' reels are aptly named. Changing the reels literally takes seconds, with no tools, and that makes the Greens King V a multipurpose mower. And of course you can still use Jacobsen's unique Turf Groomer®.

It's you who will be using it - and we've listened to you. A new control panel layout makes for ease of use and the control panel light will even reflect down to the centre cutting unit, no fiddling around in the dark there!

Lightweight construction and wider tyres mean one of the lightest footprints in its class. Combine this with increased ground clearance and the Greens King V is not just user friendly but 'greens friendly' as well.

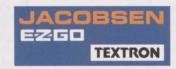
However, we haven't changed everything.
The name Jacobsen is famous around the world for its quality of cut.

It's nice to know somethings stay the same.

To find out why the all new Greens King V is The Professional's Choice on Turf contact your local dealer or telephone: 01536 417777

See us on Stand W28 at SALTEX

The all new Greens King V



Pairway Mowers

Pairway International Pairway of the International Pairway

pick up the gang and move quickly and easily is vital. All fairways can be cut within an eight hour day, but not all are cut each time as variations in soil type and moistures means that only the wettest most fertile need cutting three times a week. Cross

etc. Lee-on-Solent is a fairly flat

course but undulating, it straddles two roads, so the ability to

cutting is carried out as most fairways are wide enough with sufficient semi-rough surround to allow this.

Stephen reported that the cutting units stay "on cut" well, backlapping is normally carried out about once a month, with a full regrind being reserved for the annual overhaul, which is carried out by a part-time mechanic.

During the time the club has had the machine reliability has been very good, it is a robust outfit, however chafing of hoses and one burst has occurred. Now it is



Stephen Pellatt drives a Ransomes Hydraulic 5 at Lee-on-Solent

a fairly regular routine to check for chafing then move and retie the hose so that another part takes the rub. There are no scrap-

ers on the machine, most broke off at the brackets and, as they were not considered essential, they were not replaced. One bearing has collapsed and wore the roller so the whole assembly was replaced, but over a six year life this cannot be considered a

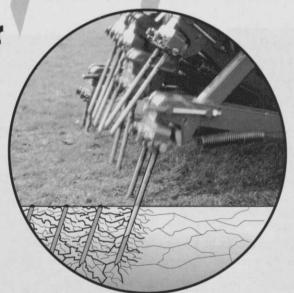
Height of cut adjustment is not altered very often, however it is easy to carry out. No problems have been experienced with uneven cut due to rollers slipping in the bracket, nevertheless this is checked regularly. Normal cut height is 5/8inch

Stephen said that Rowes are very good and have already demonstrated alternatives to him Ransomes including lightweight fairway mower. They have competition in the area, with other makes, and the club is well aware that there are other options, however satisfaction with the capital and running costs as well as with the quality of cut and ability of the Ransomes Hydraulic 5 means that it has an advantage when it comes to replacing the current machine.

EARTH SHATTERING!

The Huxley Soil Reliever

- the ultimate in deep compaction relief for all soils beneath all sports turf surfaces.
- Suitable for most turf tractors from 30hp upwards.
- Rapid tine action ensures a cleaner, quicker finish.
- Reduced maintenance greasing required just once a week.
- Rugged steel construction for a long working life.
- Available in a choice of 60" or 80" working widths with 5/16", 1/2", 3/4", 7/8" or 1" solid tines or 5/8", 3/4", 1" or 11/4" coring tines. Maximum tine depth: 14".
- Backed by probably the best after-sales service in the business.

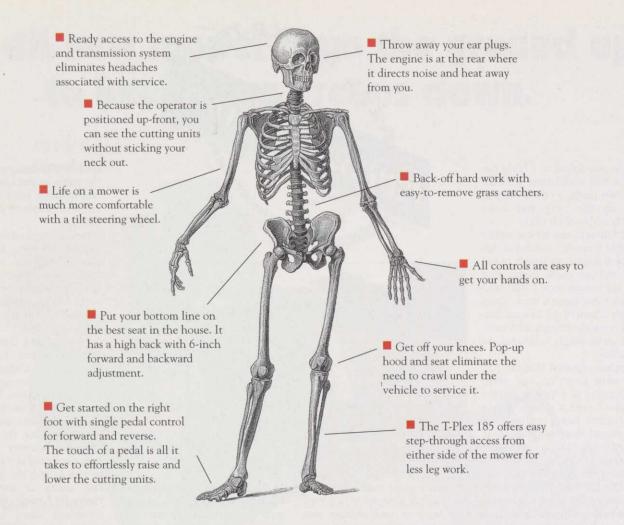




HUXLEYS GRASS MACHINERY LTD

The Dean, New Alresford, Hampshire SO24 9BL Tel: 01962 733222 Fax: 01962 734702

5 Simpson Road, East Mains Industrial Estate, Broxburn, West Lothian EH52 5AU Tel: 01506 856968 Fax: 01506 856086



Perfect for Every Body



Before we designed the T-Plex 185 tees and surrounds mower, we took a long hard look at another design: the human body. What we discovered allowed us to build a machine that pays as much attention to operator comfort as it does to performance.

VISIBILITY

The T-Plex 185 is specifically designed with the engine at the back. A rear-mounted engine clears the way for greater operator visibility, as well as directing noise and exhaust away from the operator for greater comfort.

SERVICEABILITY

Just as important as comfort is ease of serviceability. The engine position makes servicing the T-Plex 185 a simple task instead of an arduous chore. And the hood and seat pop-up, so the operator never has to crawl under the unit to service it.

PERFORMANCE

On the performance side, the T-Plex 185 is in a league of its own. Floating heads follow ground contours for a beautifully consistent cut. Constant three-wheel drive provides superb traction and large tyres exert low ground pressure.

COMFORT

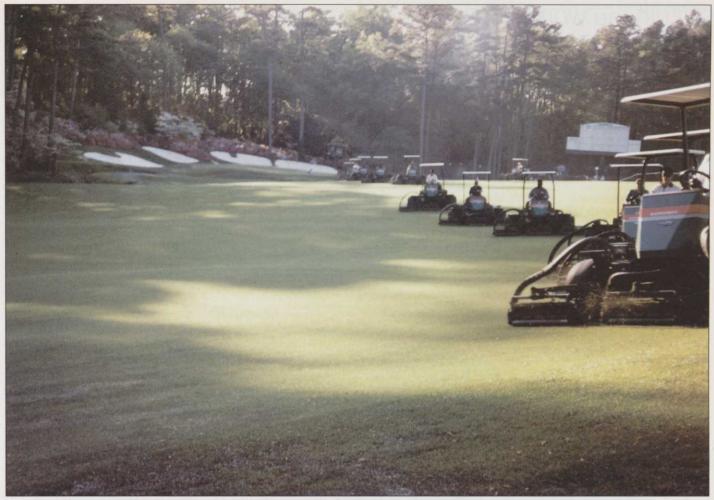
Because the engine is located at the rear, noise and exhaust are directed away from the operator. The tilt steering column means the operator can sit in a natural position.

Instead of building the 185 around the needs of an engineer or manufacturing plant, we built it around the special requirements of the operator. The result is a trim mower that everybody will feel comfortable owning.

Phone free for details on $0500 \ 026208$







Perfect grooming: equipment from Ransomes on the 13th at Augusta National

Carl's master class

Carl Horrax, pictured right, is a graduate of Myerscough College and worked on a placement at Pinehurst No 2 before being recommended to Marsh Spencer, Superintendent at the Augusta National. Carl, 21, has worked at the famous Georgia club since February and will return home with tales of a high tech paradise for the greenkeepers charged with maintaining the most pampered course in the world. These are his impressions.

The first two things about the Augusta National which stood out in my mind when I arrived were how immaculately lush and green everything looked and how the television cameras don't do the course justice. Television cameras make the course look rather flat but in fact the contouring is impressive – particularly from the steep drop off the 10th tee to the relatively flat 13th fairway.

Then once I had got over the initial shock and saw the greens for the first time I quickly discovered whey they are the most terrifying in the world. The undulations on the greens are incredible and it can only be described as classic Alistair McKenzie work. This combined



with the firmness and the close mowing makes even the best golfers in the world cringe at the thought of putting on them.

The Augusta National has a crew of 41 people for the 18 hole "Masters" course and the 9 hole par-3 course – venue for the annual pre-Masters par-3 tournament – this includes the management and the four qualified mechanics. The Golf Course Crew is solely responsible

for the course and doesn't look after the large area around the clubhouse, the trees and shrubs or the cabins located around the course. All these areas are taken care of by a separate Nursery Crew of another 16 people.

A great many of the Golf Course Crew are extremely well qualified. There are eight who already have two year degrees in some form of turf management and there are two others

'Within the workshop is a separate grinding room... There is also a separate welding room... and finally there is a spare parts room which puts your local Ford dealer to shame. Honestly, this place is amazing...'

who are presently studying for degrees on a part time basis. Then there are the six students who work on the course for a year and who are the best students from the top American turf universities.

The maintenance facilities at the Augusta National for an 18 hole course must be the best in the world. You really have to see it to believe it. The reception area more resembles a hotel lobby than the entrance to a golf course maintenance facility. In the Superintendent and First Senior Assistant's office you could easily picture Richard Branson sitting behind the desk and not a golf course superintendent. It really puts it into perspective that our industry has finally been given professional recognition by the golfing industry.

The crew room has everything that you could possibly require from microwaves, fridges, snack and drinks machines to the latest magazines and journals to read. Next door to the crew room is another crew room filled with rows of desks and resembling a class room. In fact this is used for weekly crew meetings and is especially busy during the week of the Masters. Another impressive thing about Augusta is that it has a Soil Lab. As a result of this I've learnt that diagnosis of diseases by visual appearance isn't the most effective method because disease appearance isn't always like that in a text book. So by taking samples of the diseased grass plants and looking at them under the microscope you can diagnose the disease by the spores and pathogens present. This is a cost effective method of disease control on most courses but especially Augusta National as it keeps the fungicide use down because you're spot treating the diseased and area and because you are identifying the disease before it gets

As you can imagine a golf course like the Augusta National will not be short of machinery. For transportation around the course everyone is assigned his own vehicle, either an EZ-GO, Toro Workman or a Cushman. It seems like a perfect world and in many ways it is. But at first I thought that it wa a total waste of money because probably eight vehicles never get used as the people assigned to them spent almost all their time operating machinery. Then I found out that a lot of the machinery, especially transportation equipment, is leased and gets replaced every two years and so it is just as expensive to get everyone a vehicle. Perhaps one or two of the larger courses in the UK would benefit from this method of obtaining vehicles.

When it comes to general equipment it is a case of they've got it and if they don't have it they don't need it.

The two pieces of equipment that I expected to see but that they don't have is a verti-drain and a core master. A verti-drain is something they would love to use on the fairways but because under the surface there is a



At ease: Greenstaff relax in spacious surroundings of a "crew room"

mass of cables, pipes and wires some of which are very shallow the risk is too high. Both of these pieces of equipment are used for green aeration but the aeration service is contracted out.

As you can imagine a course with so much machinery requires a hugh mechanical workshop and, as you would expect, that is what they have. The workshop is very well organised and has everything from huge hydraulic ramps that comfortably carry a Ransomes 300 to small hydraulic tables for the pedestrian mowers. Within the workshop is separate grinding room equipment with four reel

grinders and eight portable backlappers. There is also a separate welding room with both gas and mig welding facilities. And finally there is a spare parts room which puts your local Ford dealer to shame. Honestly, this place is amazing.

The Augusta National is irrigated wall-towall. There are 2100 Toro 650 or 670 heads on the main course and a further 550 on the par 3 course. It is run form a Toro Personal Computer in the irrigation room and from this computer you can do everything. There are 68 satellites around the course and from there you fingertip control of the irrigation. The Augusta National has three pump stations while the average course is the UK has one at most. Water is extracted from the two ponds on the par 3 course to irrigate the par 3 course. The main course is irrigated with purified canal water or straight from the mains water supply and in most cases it is the mains water which is used. The third pump station is located down by Rae's Creek and it is there for emergency purposes when if need by water can be taken from the Creek.

The irrigation room doubles up with the weather centre. In the room are four different lightning detectors, including one which is a PC which can track the lightning. There is also a separate personal computer which receives new weather images every 15 minutes so you can identify quickly whether or not a storm is building around you and you know when to get the golfers off the course and when to get the Golf Course Crew off the course. Lightning is very dangerous and the Augusta National takes no chances.

MAIN MACHINERY at The Augusta National (golf course crew only)

Number
Jacobsen Pedestrian -
Greens, tees, perimeters etc35
Toro 500 GM – Greens
Ransomes 300 – Fairway7
Ransomes 250 – Rough2
Ransomes 180 – Fairway8
Toro 450 – Rough2
EZ-G0 – Transport
Toro Workman - Transport4
Cushman – with most attachments21
John Deere 2300 Tractors4
Large Toro Vacs3
Smithco Sprayers3
Toro Sprayer1
John Deere Backhoe1
Bob Cat1
Ditch Witch1