



Pedestrian mowers:

Simple checks to maintain quality

By James de Havilland

Regardless of make or model, a pedestrian cylinder mower will only produce a decent cut if it has been both looked after and set up correctly. Although much of what follows should be well understood by course workshop personnel, it is easy to overlook some of the basic details. What follows are a few reminders.

With the first tournament of the season looming and all the greens to prepare before an 8.30am inspection, the last thing anyone wants to worry about is the pedestrian greens and tees mowers. Some courses, however, will find the infrequent use of pedestrian machines can lead to the mowers effectively coming out of storage between usage, with faults going unnoticed and getting worse as a result.

To suggest a mower will deteriorate through lack of use is misleading, but it is fair to say any item of kit that is parked up needing the odd tweak will not emerge a few weeks later in tip-top condition. With this in mind, a few running checks a few days before the machine is to be used will never be wasted.

The checks can be divided into two. The first relates to the power unit and drive. Reminders are listed in the table but a key issue will be to also look for any oil or fuel leaks and to check that nothing has worked loose. Cables and controls will also need looking over and adjusting and lubricating as appropriate.

The second area will relate to the cutting unit itself. A well set-up and maintained machine should have been given a clean and then greased following its last use. But it is well worth re-greasing a mower that has not been used for a while - making sure any excess lubricant is wiped off to prevent it contaminating the turf.

Adding fresh grease is as much about driving out moisture as providing good lubrication. In storage, moisture can find its way into bearings, so it pays to re-lube even a kit that has been stored in a fully serviced condition.



Moving on the cylinder, groomer, rollers and, where fitted, brushes, their setting is critical. Where applicable, the bottom knife to cylinder clearance 'air gap' needs to be maintained as recommended by the mower manufacturer. An air gap can reduce bottom knife wear by up to 50% and improves clippings flow for a smoother discharge. A quick check with a feeler gauge is all that is needed.

Mowers that have been back lapped have altered characteristics between the knife and cylinder. It is important to realise this, and set the mower up accordingly, following the specific instructions relating to an individual machine. A common mistake when back lapping is to stop the process before it has finished. It is important that the cylinder runs silently against the bottom blade before all traces of lapping paste are removed and the bottom blade to cylinder clearance is checked and set accordingly.

TIP: Always re-grease the cylinder bearings following back lapping. This will help drive out any paste that may have got into the bearings.

Groomer settings are also often overlooked. A groomer is not a scarifier, and it should typically be set 1mm above the height of cut. Similarly, roller power brushes should be set so just the extreme tips of the bristles flick the roller. If the brush is set so the bristles bend over, they will not do their job properly and they will wear prematurely too.

A periodic check of the roller and cylinder bearings can help reduce the chance of wear going undetected. A good time to inspect the bearings is when the mower is set up for a cylinder grind. The key points to look for will include play, any noise when the roll or cylinder is spun and tight spots when turning. It is best to do these checks before adding fresh grease.

The final point is to ensure the mower is set to run parallel or level. This setting on a greens mower is critical as it ensures the bottom blade is presented at the optimum cutting angle to the turf. This setting is checked using a simple 'Setting Bar' on John Deere and other makes of mower, and should be checked EVERY time the height of cut or other adjustment is made.

With thanks to Chris Perkins, Workshop Technician with John Deere dealers Parks and Grounds Machinery, Bidford-on-Avon, Warwickshire.

PEDESTRIAN MOWER PREPARATION – BRIEF CHECKLIST

- Change the engine oil as per the manufacturers recommendations.
- Clean or change the air cleaner/filter.
- Keep the air intake grill clear of grass clippings to ensure proper cooling of the engine.
- Lubricate all recommended points and check oil levels in transmissions, if fitted. Do not over grease.
- Check belt or chain transmission systems. As the cylinder and bottom blade are adjusted to accommodate wear, drive tensions may also need to be adjusted to prevent over tight running.
- Belts can crack and break with age so check their condition.
- Consider the need for a cylinder regrind and replacement of the bottom blade depending on their condition. Back lapping may be required.
- Ensure cylinder bearings are not worn. Check for excessive free play. Taper roller bearings may be adjusted.
- Adjust the cylinder and bottom blade as per the manufacturers recommendations. Some use the "air gap" principle, while others rely on cylinder to blade contact. Always follow the manufacturers recommendations.
- Carry out cylinder/bottom blade adjustments before setting the height of cut. As either is adjusted, height of cut is also changed.
- Check for worn roller bearings. An accurate height of cut cannot be achieved if there is free play in the bearings of both front and rear rollers.
- If Turf Groomers are fitted check the drive mechanism, blades, rollers and required operational depth as required.
- Ensure that transport wheels are inflated correctly (if pneumatic) and also that they can be removed easily and are not seized on to the drive shafts or hubs.
- Check all operating cables for wear and also adjust to ensure correct operation.
- Make an operational check of all OPC systems to ensure correct functionality.
- Keep the machine clean - always clean off grass clippings with a brush, compressed air or low pressure water from a hose.

With thanks to Nigel Church, Ransomes Jacobsen.



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1
Regardless of make or model, a pedestrian cylinder mower needs to be checked over before it is used. This will apply equally to a mower that has been un-used following a service.



2
A small bend in a blade at the edge of the cylinder may be eased out using a light hammer. If in doubt, leave it to a specialist. With the mower up-ended, check for play in all bearings.



3
Where the cylinder and bottom knife operate with an air gap, check it is even across the face of the mower using a feeler gauge. Check with the manufacturer how this gap needs to be altered following back lapping. There are differences between makes and models.



4
John Deere supplies its mowers with a simple setting bar that enables the rollers to be set so they run parallel to the bottom blade. This setting is critical on cylinder mowers.



5
Checking the oil in a mower engine is a routine job, but remember the engine needs to be level to get a true reading. A block of wood under the front roller will do the trick. If the oil is dirty, change it. Look for leaks and clean off any spills before mowing.



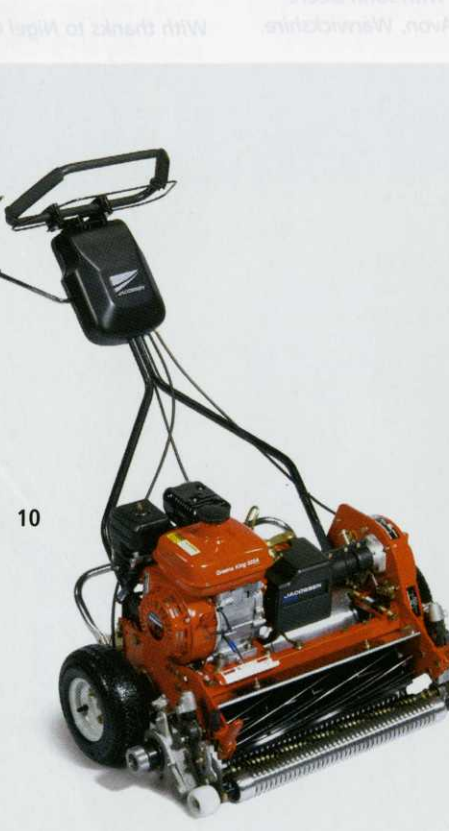
6
Ease out the starter cord, looking for damage particularly near the end. Any sign of fraying spells new cord time. It is easier to renew the cord than try to replace one that has snapped.



7
Belts need to be correctly tensioned to prevent slippage; an easy quarter of a turn on the belt is the typical maximum. If a belt drive machine is to be stored for an extended period, it can pay to remove the belts. If a belt shows signs of cracks or has been allowed to slip, it is best replaced.



9
Set the roller power brush so the bristles lightly touch the roller. If the bristles are bent over they will typically not do their job and the power brush may need renewing. This setting needs periodic checking.



10
Although it is never possible to keep a mower in showroom condition, a good clean before putting it away is a key maintenance task. It pays to grease the machine as it is put away and then again when it is next used. Wipe off surplus lubricant.



8
Transport wheels typically slide onto their shaft. To prevent them seizing, remove any corrosion with emery paper and apply a coat of copper grease. Check all fasteners, replacing any adjusters that are damaged or badly corroded.



11
Pedestrian mowers differ in many subtle ways, so do not assume knowledge with a particular make and model automatically applies to other designs. Well maintained kit will have lower whole life operating costs, be easier to operate and do a better job.