

# EXPLORING EQUIPMENT

## Aerator Maintenance Tips

**P**reventive maintenance is extremely important for today's self-propelled, walk-behind aerators. A rolling-type aerator can punch almost 200,000 holes per hour. A reciprocating aerator can punch nearly 300,000 holes per hour. That's a lot of work — and a lot of stress on the machine.

The overall wear and tear on a walk-behind aerator operated eight hours a day, five days a week for 20 weeks is roughly equivalent to that sustained by a car pulling a trailer at 55 mph for the same periods of time, covering 44,000 miles. In situations where the ground is relatively hard, the process of making each hole is comparable to pushing the coring tine against a grinding wheel thousands of times per hour.

A quality aerator is built to handle this type of workload. But to keep your machine in good working order, proper maintenance is essential. The following daily maintenance procedures, recommended by Ransomes America Corporation, help keep aerators in top operating condition:

- Pressure wash the entire machine with water. For best results, wash after the day's work is finished and the engine has cooled. If left overnight, dirt and grit can start eating away at vital parts, especially aeration tines. Rust is the worst enemy of core aeration tines. Rust in tines can cause cores to stick, plugging the tines and causing a variety of related problems. (Steam cleaning is not recommended. If the aerator has sealed bearings, steam may get past the seal and cause the bearing to rust. A rusty bearing can put an aerator out of work and into the shop.)

- Closely inspect all chains and sprockets for wear. Replace or adjust as needed. Do not overtighten roller chains, as this will shorten life. To ensure reliable performance, use only manufacturer-specified parts.

- Closely inspect all sealed bearings. Make sure the bearings are straight and the seals in place.

- Closely inspect all tines for wear,

cracks, bending and other damage. Don't forget to inspect the tine mounting (nuts and bolts). Tighten all hardware according to the torque specifications in the operator's manual.

- Make an overall inspection of moving parts and fasteners. Replace or tighten as necessary. Because of the extreme vibration generated by walk-behind aerators, this is a very important part of the preventive maintenance program. Again, manufacturer-specified hardware is recommended — it can withstand the vibration and other stresses common to hard-working aerators.

**Proper aerator maintenance takes time, but it's time well spent.**

Here's a useful tip that can help save inspection time: After installing a new bolt, give it a coat of paint. (Paint from a spray can works fine.) If the bolt starts to work loose, the paint on the thread will crack, providing an easy-to-see sign that tightening is needed.

- Lubricate all moving parts including tines and chains. A lubricant such as WD-40 does an effective job in most cases. However, O-ring sealed chains should only be lubricated with a lubricant specifically designed for them.

- Lubricate all fittings. Wipe fittings before and after greasing.

- Inspect all belts for wear and proper adjustment.

- Check for proper oil levels. Follow the manufacturer's recommendations for the type and grade of oil required.

- Check the engine air filter system and clean, if necessary, following the manufacturer's recommendations.

- With a pressure gauge, check the air pressure of the tires. Keep tire pressure at manufacturer-recommended lev-

els. Improper inflation can considerably shorten tire life, as well as change the performance of the machine in some cases.

All of these maintenance procedures apply to both reciprocating and roll-type aerators. Refer to your operator's manual for specific recommendations.

With roll-type aerators, also be sure to check the rolling tine wheels for side-to-side movement. If a tine wheel can be easily moved back and forth by hand, it is likely that the bushings are badly worn. Replace them.

### Preparing for Storage

The following procedures are recommended for aerator storage of more than 30 days:

- Remove fuel from the system, according to the engine manufacturer's recommendations.

- While the engine is still warm, drain the crankcase oil and replace with the grade and weight of oil best suited to the season in which the aerator will be next used.

- Remove the spark plug from the engine and squirt a small amount of oil into the cylinder. Turn the engine over a few times to distribute the oil, then replace the spark plug.

- As necessary, touch up all hardware with spray paint.

- Refer to the operator's manual for other specific recommendations.

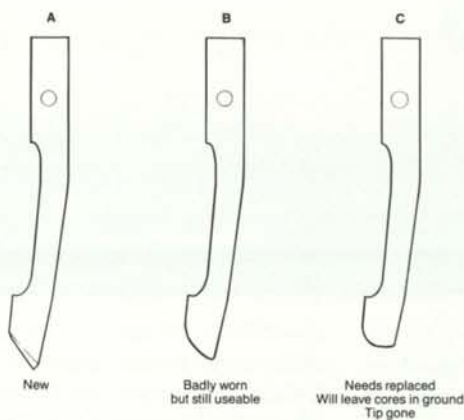
### Tine Tips

As part of a good preventive maintenance program for aerators, tines should be cleaned and inspected for wear after the day's work has been completed.

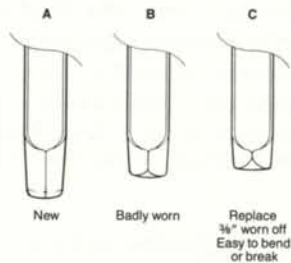
Cores left in tines for extended periods of time can cause pitting on the inside of the tines. These pits may keep a tine from ejecting the core properly. As a result, the tine must be replaced. Pitting also cuts down on the service life of tines.

If a core becomes stuck in a tine, use an electric drill with a half-inch bit to bore it out. To polish the inside surface of a tine, try using a shotgun bore brush in

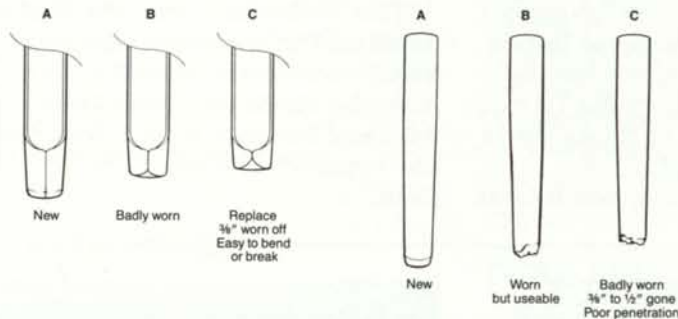
1) Tines used on rolling-type aerators



2) Folded-type tines



3) Solid tube tines



the electric drill.

Different types have different wear patterns. It's important to recognize and understand these patterns.

A tube-type tine generally wears in an erratic fashion, often making the tine appear to have serrated tip. The tine should be replaced when 3/8-inch of the tip is worn away.

Tines that are "folded" in the manufacturing process have a split or seam. This often results in a different wear pattern. These tines wear on the cutting tip, as do the tube-type tines, but they also wear faster near the split or seam. Again, replace them when 3/8-inch of the tip is worn off.

Tines on roll-type aerators have a different wear pattern. The leading edge of these tines is angled so it will cut through the thatch and soil surface first, opening the way for the tine to enter. This cutting edge will show signs of wear first. When the cutting edge is worn so the end of the tine is nearly even on all sides, the tine should be replaced.

Measuring tines prior to first use is a good idea. This eliminates guesswork and allows tine replacement at just the right time to maintain maximum aeration performance. Remember, the length of the tine determines the depth of the aeration hole. Short tines leave shallow holes, which result in poor aeration.

Proper aerator maintenance takes time, but it's time well spent. A regular preventive maintenance program can reduce wear, which extends the life of the machine. It cuts downtime and helps control the cost of repairs and operation. Preventive maintenance is good insurance for your aerator equipment investment. □

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