

EXPLORING EQUIPMENT

A Plug for Aerator Maintenance

By Bob Brophy

Preventive maintenance is extremely important for today's self-propelled, walk-behind aerators because they are real workhorses. A reciprocating aerator is capable of producing 288,000 holes per hour.

The heavy workload places a considerable amount of stress on the machine. To get the idea, take a tine-like piece of metal and try to punch a 2- to 3-inch-deep hole in the ground repeatedly. You will quickly get the idea.

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 period of time, covering a 44,000 miles. In situations in which 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 each hour.

A good-quality, commercial aerator is built to handle this type of workload. However, proper maintenance is essential to keep the machine in top working condition.

Daily Maintenance

Make daily preventive maintenance procedures part of your regular routine. Train equipment operators to perform these steps and make them accountable for keeping their machines well-maintained.

**Pressure wash the entire machine with water.* For best results, wash the machine after the day's work when the engine has cooled. If left overnight, dirt and grit can start eating away at vital parts, especially the aeration tines. The worst enemy of core aeration tines is rust.

Steam cleaning is not recommended. If the aerator has sealed bearings, steam may get past the seal and cause the bearings to rust. A rusty bearing can put an aerator out of work and in the shop.

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

**Carefully check all sealed bearings.* Make sure the bearings are straight, and the seals are in place.

**Inspect tines for wear, cracks, bending or other damage.* Don't forget to

check the tine mounting hardware (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 walk-behind aerators generate, this is an important part of the preventive maintenance program. Be sure any replacement parts can withstand the vibration and stresses common to hard-working aerators.

To help save inspection time, give new bolts a coat of paint when you install them. (Paint from a spray can will work fine.) If the bolt starts to work loose, the paint on the threads 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. One exception is O-ring sealed chains. Use a spray chain lubricant specifically for O-ring chains. Several manufacturers use these chains because of the chains' strength and durability.

**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.

**Look at the engine air filter system.* Clean it, if necessary, following the manufacturer's recommendations.

**With a pressure gauge, measure the air pressure of the tires.* Keep tire pressure at manufacturer-recommended levels. Improper inflation can shorten tire life considerably.

This checklist applies to both reciprocating and roll-type aerators. Refer to your operator's manual for specific recommendations.

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

Preparing for Storage

If you plan to store an aerator for more than 30 days, follow these additional maintenance procedures.

**Remove fuel from the system accord-*

ing to the engine manufacturer's recommendations.

**While the engine is still warm, drain the crankcase oil and replace it with the grade and weight of oil best suited to the season in which you will next use the aerator.*

**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.*

**Touch up all hardware with spray paint as necessary.*

**Review the operator's manual and perform all recommended storage procedures.*

The \$100 Bolt

Proper maintenance of aeration equipment takes time, but it is time well spent. A good preventive maintenance program can reduce wear, which helps extend machine life, cut downtime, which helps lower the machine's unit cost, and help control costs for repairs and operation.

Have you heard the story about the \$100 bolt? It seems that the aerator maintenance crew was running late and in a hurry after a long work day. They failed to check a bolt for tightness. The next day, at a job 30 miles from the shop, the bolt worked loose and was lost.

Without the bolt, further operation of the aerator would result in damage. The operator had to drive back to the shop for a replacement bolt. That evening, the business owner sat down and estimated the actual price tag for that lost bolt, including employee wages paid for time spent getting a replacement bolt, money spent on gas for the 60-mile round trip and the cost of aerator downtime. The total came to around \$100.

The cost of the replacement bolt was 25 cents. The owner resolved to review proper preventive maintenance procedures the next day.

Make your resolution to promote preventive maintenance *before* you find your company replacing \$100 bolts. □

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