

Other neat stuff we found in product catalogs, in no particular order:



Solatrol: Light Energized Irrigation Technology (LEIT-Link). Universal control units that operate under ambient light, even in the heaviest shade. It looks like a parking meter but it's a lot handier.

Circle No. 251 on Reader Inquiry Card

King Technology: Waterproof safety connectors. Sparkproof, silicone-filled, twist-on. Splices solid and/or stranded wires. Meets NEC coded direct-bury standards.

Circle No. 252 on Reader Inquiry Card

Kifco: Water-Reel traveling irrigation machines. Portable, can irrigate a complete football field in a single pass. Relatively inexpensive but labor saving. Good back-up for in-ground systems.

Circle No. 253 on Reader Inquiry Card

Glen-Hilton Products: Freeze-Clik preset temperature sensor to keep sprinkler systems from operating during freezing or near-freezing temperatures. From the same folks who manufacture the Mini-Clik II rain sensor shut-off.

Circle No. 254 on Reader Inquiry Card

Salco Drip Irrigation: Drip emitters—single outlet, six outlet and bubbler. Flexible drip hose made of PVC. Full line of drip irrigation accessories.

Circle No. 255 on Reader Inquiry Card

Olson Irrigation Systems: Threaded sprinkler riser. Raise or lower a sprinkler with minimum digging. Pressure-Compensated Emitter. Patented silicone cylinder, self-cleaning pulsating action.

Circle No. 256 on Reader Inquiry Card

Aquapore Moisture Systems: Porous pipe. Handy in raised beds, perimeters, planters, median strips. Applies precise amounts of

water to plant root zones. Uniform distribution of water along length of pipe.

Circle No. 257 on Reader Inquiry Card

Greenlawn Sprinkler: Valves, valves and more valves. Also, heads and risers, manifold tees, and nozzles, including plant and shrubbery nozzles.

Circle No. 258 on Reader Inquiry Card

Murdock Water Sensor Equipment: Hydrants (post and flush-box). Drinking fountains. Emergency showers and eye wash equipment. Sturdy.

Circle No. 259 on Reader Inquiry Card

Smith Precision: Liquid fertilizer injectors. Seven models. Operate on water flow. No lubrication or adjustment required.

Circle No. 260 on Reader Inquiry Card

Remote Control Technology: Hand-held remote controls. At the touch of a button, turn on any valve from up to 1/2 mile from the controller.

Circle No. 261 on Reader Inquiry Card



COVER STORY II

by Mark L. Dlugoss

A sure cure for equipment ills

■ The worst possible thing that can happen to a landscape manager is "downtime." The most common reason for downtime?—equipment breakdowns.

If any piece of equipment is neglected over a length of time, a problem is sure to become serious, such as a hose or belt breaking; even worse, an oil seal blowing out and leaking. Now a simple repair of \$5 to \$10 has escalated to \$300 to \$400. While expenses increase on the repair, money is also lost because of not being able to perform a contracted job. Time and productivity is also lost with idle workers, who, incidentally, are still being paid while a repair is made.

"Knowing all that, then, why don't landscapers maintain their equipment on regular basis?" asks Mike Goodwin, worldwide service manager, commercial division, the Toro Co., Bloomington, Minn. "The main reason is time. Everyone is in a hurry to get the job done,

Visual checklists are the most basic kind of preventive maintenance, according to experts.

to meet a schedule, and everything is secondary to that point."

But time—and money—can be saved in the long run by creating a preventive maintenance program, which also helps avoid expensive repair costs and downtime and to extend the life of the equipment.

Developing a program—Begin with the manufacturers. Each piece of equipment has recommended service intervals.

"Most manufacturers have a detailed suggested maintenance program that they provide with their equipment," declares Joseph O'Reilly, service advisor for Kubota Tractor Corp., Compton, Calif.

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"Landscapers should follow that as their minimum guideline."

When a piece of equipment is scheduled for its interval maintenance check, manufacturers suggest it should be taken out of the field and serviced according to specifications. They also urge that landscapers use only OEM or OEM-approved parts and fluids.

A preventive maintenance program *does* require an investment: make sure to stock parts that are normally used. Items, such as bearings, seals, filters, belts and oil, should be made available for scheduled maintenance intervals and emergency situations.

Each working day, a designated time should be set aside for basic preventive maintenance. Don't wait for slack time. A lubrication schedule, based on hour-meter readings—daily, weekly or monthly—should be established for all equipment.

The responsibility for each preventive maintenance function should be delegated to either a mechanic or an operator, depending on the size and structure of the landscaping operation.

Operators, working off a daily checklist, should visually check:

- fluid levels;
- air cleaner;
- blower housing;
- hoses and hydraulic lines, making sure they are not frayed nor leaking;
- belts for wear;
- radiator and transmission levels; and
- mower blades for sharpness.

They should also conduct a general clean-up.

"All of these things sound relatively simple," says George Thompson III, director of corporate communications at Briggs & Stratton, Wauwatosa, Wis., "but you'd be surprised at how many landscapers tend to do one and not the other, or don't do all of them regularly."

'3S' approach—John Oldenburg, manager of technical services at Jacobsen-Extron, Racine, Wis., advises operators to incorporate a "3S Approach" in their daily checks—"sight, sound and smell." *Sight*: look for the obvious things that could go wrong. *Sound*: listen to whether the machine is running properly or not. *Smell*: detect odors from burning electrical systems or leaky hydraulic lines.

"If you use those three things, you're going to detect a lot," points out Oldenburg. "Mark them down and give them to the appropriate person in charge of repairs, and get them taken care before it becomes a failure."

Someone—supervisor, head mechanic or technical expert—should be assigned the

EQUIPMENT: DAILY CHECKLIST

DATE _____
UNIT/SERIAL NO. _____
EMPLOYEE _____

ENGINE

- ___ Oil level
- ___ Fuel levels
- ___ Air cleaner
- ___ Blower housing
- ___ Hoses
- ___ Hydraulic lines
- ___ Belts
- ___ Water level (on water-cooled engines)
- ___ Cooling fins (on air-cooled engines)
- ___ Radiator level (riding mowers)
- ___ Transmission level (on riding mowers)

OTHER

- ___ Overall visual inspection
- ___ Blades (on mowers)
- ___ Bolts
- ___ Belts
- ___ Day-end lubrication
- ___ Day-end clean-up

responsibility to oversee the program. His responsibility should include keeping accurate service records.

However, the ultimate responsibility for the program should rest with owner, according to Mark Wagner, engineering manager of Ransomes Inc., Johnson Creek, Wis. "If the owner doesn't place any emphasis on it, the next guy down the line is not going to pay any attention to it."

If you maintain a logbook on every piece of equipment—and you should—it will provide a history of the equipment and all repairs. It can also allow you to look at costs per hour in operation. And if a unit demonstrates a consistent problem, it allows you to create a necessary parts inventory to cover emergency situations.

Notes Paul Scholten, manager of service and technical publications, engine division, the Kohler Co., Kohler, Wis.: "If there is a record of how much expense they put into it, maybe there is a piece of equipment that does the same job and has a lower maintenance cost. Another thing is that, if you have any comebacks for the manufacturers relative to the warranty, you have a permanent record."

As the saying goes: "An ounce of prevention is a pound of cure!"

—The author is a freelance writer based in Cleveland, Ohio. This is his first assignment for *LANDSCAPE MANAGEMENT*.

Preventive engine maintenance

by Tom Brink

■ Your equipment operator's manuals contain tested, proven care and maintenance procedures. Before questioning them, consider these common sense "whys" behind some of these service procedures.

Read the operator's manual. It contains nearly everything you need to know about service. You'll save time and money by reading the manual *before* working on the machine—not *afterward* to see what should have been done, or what must be redone.

Avoid over-servicing. An example of over-servicing is the air filter on diesel engines. When the air filter looks dirty on the outside, that's a sign that it's doing its job. As dirt collects within the outer portion, the air cleaner works even better. Its holes become smaller, preventing smaller particles from passing through. When the holes become clogged, the filter needs replacement. But never clean an air cleaner; always replace it.

Use proper replacements and hardware. For example, when shear bolts (soft, break-away bolts used to attach accessories) break, they free the attachment from the gear box or drive shaft. If the shear bolt is replaced with a hard bolt, the accessory remains attached even when an object becomes trapped. The unit continues to operate, and transfers stress and damage to a more expensive part of the machine.

Another example: a "will-fit" belt probably won't do the job. Even when a belt looks like it fits in the sheave correctly, it may not. If a belt is worn or too small, it will slip. Worn or wrong-sized belts can actually change the shape of the sheave itself.

Sand can also affect the sheave. Small particles grind against the sheave as they move along the belt. This damage may not be apparent when looking at the sheave from above, but can be detected by examining it from the side. A straight-edge placed against the sheave will reveal the "belly" worn in it by the sand particles.

Check the sheaves when belt problems occur, before placing the blame on the belts.

Be careful when washing. Frequent washing is important, especially for equipment exposed to fertilizers and other chemicals that can cause rust.

Wait to wash the machine until after it