

Power Saw Safety

By **HANK HARVEY, JR.**
Arborist
Rutledge, Pennsylvania

LAST week my buddy bought a brand new light-weight power saw and was using it for the first time in a tree. Unfortunately, it slipped out of his hands. Fortunately, he had a power saw holdingstrap. Unfortunately, he hadn't installed it yet. The saw fell about thirty feet and hit the groundman on the head. Fortunately, he had just been issued his OSHA-approved safety hat. Unfortunately, it was still in the truck. Fortunately, this is just a story. Unfortunately, it could well be true.

While nearly everyone who uses or has used a power saw realizes they are a dangerous tool, it's doubtful that many realize just how very dangerous they actually are. In a tree or on the ground, running or not. The many dangers that power saws pose, present or potential, merit greater consideration than most saw operators give them.

ON THE GROUND

Overall, most power saw work is done on the ground. Therefore, just on the basis of manhours spent cutting, the greatest danger of a power saw accident exists to ground workers. What are the greatest hazards? There are many. But the following present the greatest danger to power saw users on the ground:

SAW KICKBACK — That is when saw jerks or kicks back suddenly or unexpectedly. It could also be

when the saw makes a branch or piece of wood kick back at the operator. Because kickback is sudden and unexpected, it can cause operator to lose his grip on the saw and either drop it or have it thrown towards him, in either case possibly causing serious injury or death. Kickback can be prevented by always paying careful attention to what you are cutting and what is behind it or under it. *AND* by having a good, firm grip on the power saw at all times. A loose, sloppy chain can also cause kickback, so it is wise to always keep it properly adjusted.

TREE FELLING — This is the actual take-down or dropping of trees. It is nearly always done with a power saw. And it is very dangerous. An improperly felled tree can go the wrong way or spin off the stump, thus seriously hurting or killing the saw man. Tree felling should be learned by watching an expert do it and having him explain the procedure. But there are several booklets which explain the fundamentals. One is offered by Homelite at most of the dealers. Another is *All About Using Chain Saws* from Omark Industries and can be obtained where Oregon Chains are sold, for \$1. Another is *Chain Saw Operation*, available free from the Public Relations Department of McCulloch Corp., 6101 W. Century Blvd., Los Angeles, California 90045. Two essentials things to remember about safety when felling trees is 1) Always have a clear work area and escape route in the opposite direction of the tree

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Various publications on proper and safe use of power saws are available from saw and chain manufacturers.



Many accidents occur when first starting saw. Make sure you have a firm grip before pulling starter.



Chain that's too loose can cause saw to "kick back" dangerously. Check chain tension before each use.



"Just a touch" from a moving chain, even when saw is just idling can cause a vicious cut like this.



Exercise extreme care when cutting up in brush. Small twigs and branches make tripping dangerously easy.



When felling any trees, even small ones, make sure you have a clear work area, and a pre-determined "escape route."

Grooming The Monster

PREPARING "the Monster" for the 54th PGA Championship was the responsibility of Ted Woehrle, Superintendent at the prestigious Oakland Hills Country Club in Birmingham, Michigan.

Oakland Hills' south championship course, ranked among the nation's toughest and dubbed "the monster" by the venerable Ben Hogan, was made even tougher for this year's tournament. Those who viewed the PGA Championship on national TV witnessed "the monster" take a toll of leading money-winners.

Woehrle's preparation of the course had much to do with the success of this \$225,000 golfing challenge, and a great deal more to do with the smooth execution of the entire tournament.

In preparing the course for the July 1 — August 6 PGA assault, Woehrle tried a number of ideas suggested by the experiences of other superintendents, while developing his own overall "game plan". For "instant reply", here are some of the approaches Woehrle took and during the week-long proceedings.

Months ahead of the tournament, telephone and TV people made it known they needed two telephones for each hole. One phone would be located at each green for official scorekeepers, while the second phone, spotted at the 250-yard marker, would be used by broadcasters to relay information about the holes not actually covered by TV cameras.

To set up the phone system, nearly 30,000 feet of telephone wire had to be strung around the course. How to do it was the problem.

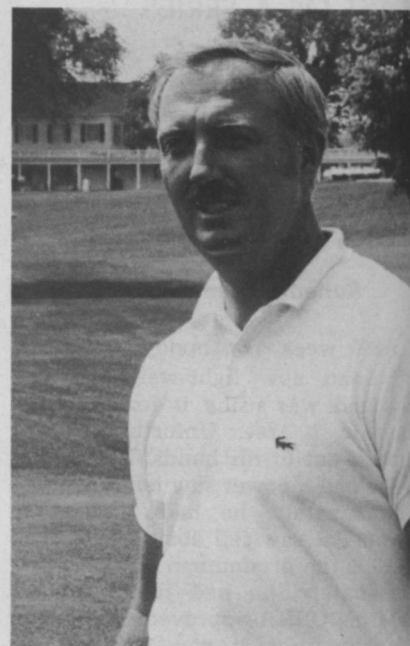
"At first, there was thought of installing phone lines permanently," said Woehrle, "but the cost of trenching and installation was extremely high, and they (telephone engineers) wanted to know if there was a better way."

Woehrle suggested he could take up a piece of sod with a sod cutter, lay the wires about two inches in the ground, and flop the sod back over the wires. "The only thing that bothered me about doing this," Woehrle recalled, "was the large scar sod removal would leave, so I cut off part of the sod cutter to take up a narrower piece and moderately curved the blade to make more of a crease under the sod."

The idea worked perfectly. The wire laying operation was completed five weeks ahead of the tournament, and when play began, nearly all the scars left by the operation had grown over.

After the championship was over, the wires were removed simply by pulling them up by hand, again leaving only a small, fast-healing scar.

Ted Woehrle's "modified" sod cutter was the method used to lay nearly 30,000 feet of telephone wire around the Oakland Hills course. The wires were put about two inches below the surface to protect them from spiked shoes often worn by people in the gallery. The scar left by the sod cutter had grown over by the time the tournament had started.



Ted Woehrle is superintendent at Oakland Hills Country Club, Birmingham, Michigan, where the 54th PGA Championship was held in August.

Healing the scars left by the galleries totalling more than 114,000 people was still another problem for Woehrle. His solution actually began before the tournament practice rounds.

"We were not concerned about damage to the fairways, even from galleries this big," commented the superintendent. "People don't do

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HYDRILLA IN IOWA

A SMALL, unobtrusive pond in eastern Iowa is home base for a thriving aquatic weed that previously was known to inhabit only southeastern U.S. subtropical climates.

Hydrilla has been positively identified less than a mile from the Mississippi River near Davenport, Iowa.

The discovery of this hard-to-control aquatic weed sheds new light on the adaptability of this species

to foreign environments.

How did the Hydrilla get to Iowa? The only explanation available is that a small piece of Hydrilla apparently rode the coattails of a water hyacinth shipment ordered by pond owner, Pete Riehle.

"The area around here was developed by Dr. J. R. Shorey, a local physician," said Riehle. "He ordered hyacinth every year to add color

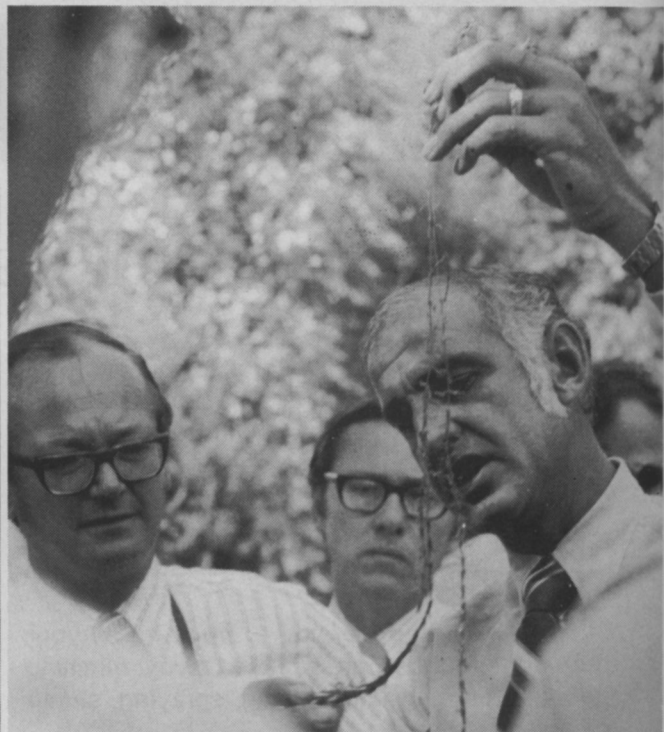
and beauty to the pond. When we moved here the practice was continued. Apparently Hydrilla was carried in with the hyacinth."

Earlier this year Riehle, who is a production superintendent for 3M Company, sent a sample of the weed to 3M headquarters for identification, after attempting to control it with little success. In St. Paul, Dr. William Paterson, manager environ-

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Dr. William G. Paterson, (l) manager, environmental products project, 3M Company, examines strands of hydrilla with Robert D. Blackburn. Blackburn is considered a world authority on aquatic plant life. He is with the USDA Research Center in Fort Lauderdale, Fla.



Dr. Robert Geiger, manager of 3M's lakes and waterways management service, Pompano Beach, Fla. and Robert D. Blackburn discuss hydrilla taken from the Iowa farm pond near Davenport.

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Mature Tree Transplants Instant Shade In Landscape Design

By **ROSS BARNEKOW, President**
American Tree & Landscaping Co., Colgate, Wisc.

PICTURE a mature tree in all the splendor of its life-bearing processes, and next visualize it supplying the natural beauty of a tree's age to a plot of scattered shrubs and grass.

What you will soon come to realize is that the transplanting of well-developed trees answers several important needs in modern life. The practice of tree transplants is becoming more common each year as individuals see it as an effective

step to improve landscape design and as a creative solution to ecological problems.

Country clubs in general have been aware of the advantages of mature tree transplants for years, helping to lead development in this young field. The club grounds naturally require large trees rather than saplings. Acting with imagination and foresight the greenskeepers have taken advantage of the same service that will be discovered by

others in the time to come.

Let us take a look at an example of what I call a *Creative Transplant*. A local site was chosen for the development of a ski hill and winter resort. The site consisted of about 700 acres. Plans were drawn up, structures designed and work began on building the hill.

Suddenly, a unique problem arose. Approximately 500 trees occupied the area that had to be filled as part of the ski hill. A quick check of the records accounted for the exceptional variety and fine quality of the trees. A tree farm had formerly occupied a portion of the land. Through ingenuity and wise responsibility, a decision was reached to relocate the trees.

My company was called in to assist in the execution of this creative plan. The trees were transplanted to a temporary *Holding Nursery* on the site. The ski hill was developed and the structures erected. Then all the trees were transplanted once more, this time to a permanent location according to the designer's plan.

No doubt this lesson in creativity is somewhat unique and not a standard occurrence. Yet it does serve to illustrate the use of the temporary on-site *Holding Nursery* or *Tree Bank* as they are sometimes referred to by those familiar with the advantages of transplanting adult trees. With every new application of these principles, the excitement of innovation is there to open new avenues for planning.

We recently completed an assignment for a housing development that may give you a better idea of the flexibility transplanting allows. The site was laced with beautiful trees, and the developer intended to work around them, saving as many as possible. Unfortunately, as the blueprints were completed, he discovered the majority of the dwelling units would fall right about where each tree was located. Once again, imagination prevailed. The *Creative Transplant* was considered.

I was called in to review the situation and a solution was found upon which everyone could agree. The trees were transplanted to make a *living fence* encompassing the entire development. The result was a beautiful, natural barrier that insulated the entire subdivision from the noises of the city in which it was immersed.

There are cases, however, where for one reason or another the presence of mature trees is not desired
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CALIFORNIA hosted a festive, colorful 48th annual convention for the International Shade Tree Conference. Time — mid-August. Site — Newport Beach.

A total of 784 registered. Registration included 506 men, 186 women, and 92 youths. Both women and youth registrations were records.

Theme of the Conference, "Trees—Our Survival Legacy," proved to be a subject dear to every professional arborist. Formal presentation included more emphasis this year on ISTC efforts to accelerate environmental programs as well as a sharing of technology.

A concern of practically every professional arborist and of their equipment suppliers, voiced for the first time at an ISTC convention, was the effect of Occupational Safety and Health Act requirements on the tree care industry. Private opinions of many professionals at the Conference was that a number of OSHA standards are impractical, which likely accounts for the many bills pending before Congress to re-examine current OSHA standards.

McCulloch Corporation manager, J. B. Bailey, Los Angeles, offered a technical review of both research and practical applications of efforts to solve the noise levels of chain saw operation. Pointing out the absurdity of certain efforts he offered as an extreme example the 5-year plan of the city of Tallinn, capital of Estonia. This city plans to reduce all sources of daytime noise to 35 decibels. This would outlaw motor vehicles, talking, music, wind, birds, etc. It would allow only soft whispers, leaves falling and tiptoeing.

In a more serious vein, he offered technical research related to OSHA's 90 decibel limit. Here, Bailey said, autos, quiet trucks, quiet motorcycles, and even the majority of chain saws make it if the sound level is measured at 50 feet. But, he pointed out, OSHA regulations are for sound level measured at the ear. For chain saws, the sound level is 26 decibels greater at the ear than at 50 feet. Thus, to meet the 90 decibel limit at the ear, the sound level would be 64 decibels at 50 feet. Incidentally, Bailey reported, the sound level of normal conversation measured at 18 inches is about 75 decibels. Obviously, this OSHA specification of 90 decibels, measured at the ear, for chain saws is beyond the present state of the art.

Despite the fact that chain saw manufacturers have done much to reduce both noise and vibration level of commercial chain saws, the OSHA sanctioned standards appear

International Shade Tree Conference Report

unrealistic. Bailey answered the oft asked question as to why not use ear protection and eliminate the stress placed on noise level. This, he pointed out is not the answer.

There are a number of problems which arise when ear protection is used. For example, ear covers cause the inside of the ear to perspire; also, some people find that the pressure on their earlobes can become painful after a short time.

Secondly, ear plugs, to be effective,

are usually uncomfortable. Japanese research shows that individuals using ear protection partially lose their sense of balance.

And finally, enforcing the use of ear protection poses a challenge. Convincing some people that they must wear ear protection falls in the same category as telling them they shouldn't smoke, or should use seat belts.

Baffled mufflers, to bring the sound level down to 90 decibels is

OSHA Requirements Explained...

Concern expressed by arborists about the Occupational Safety and Health Act requirements has caused a good deal of confusion on just what the Law specifies.

WEEDS TREES AND TURF recently interviewed John P. O'Neill, chief of the division of general industry standards, Office of Safety and Health Standards, Occupational Safety and Health Administration, Department of Labor.

According to Mr. O'Neill, OSHA's maximum permissible noise exposure is based on an average of 90 decibels per hour measured on the A-scale over an 8 hour day. "There is no one limit," O'Neill said. "This is the maximum; the minimum could be sustained sound levels of 115 decibels for an average of 15 minutes."

Rules and regulations of OSHA as published in the Federal Register show a table for noise exposures:

Duration per day, hours	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ or less	115

Mr. O'Neill pointed out that most power saw operators do not continuously operate a chain saw for more than 30 minutes to an hour at a time. It is usually a start and stop operation. Further, he said that work breaks and lunch breaks would be counted into the overall exposure period. Thus, a power saw operator may be exposed to high noise levels for only a small portion of any average day.

WTT asked O'Neill whether any chippers currently on the market complied with OSHA standards. "I am not aware of any," he said. "However, two administrative controls can be implemented in cases where chippers are used. Ear defenders (protectors) can be worn by operators. And rotation of people from the source of the noise can be accomplished." If employees cannot wear ear protectors, because of infection, ruptured ear drum or configuration of outer ear, a simple rotation of work will decrease noise levels at the ear.

O'Neill said that the American National Standards Institute (ANSI) is currently developing standards for tree trimmers. "These will be reviewed and possibly adopted by OSHA," he said.

In addition, the Environmental Protection Agency (EPA) is developing noise standards for communities. These will be incorporated in the Environmental Protection Act.

not the answer, Bailey said. Research shows that, if the exhaust noise is eliminated, the purely mechanical noise, including the chain, is about 100 decibels at the ear or 74 decibels at 50 feet. In fact, even electric chain saws can exceed the OSHA acceptable sound levels.

A summation of the current situation of OSHA sanctions would indicate that there is a need for legislation at the Congressional level to bring some semblance of realism to the approach which is now the law.

Speaking on why OSHA came into being was John Holgdren, manager, Loss Control Services, Bayly, Martin & Fay Insurance Brokers, Los Angeles. He emphasized the point that each year 15,000 men die as a result of their jobs. In only four years, he said, as many people have died because of their employment as have been killed in almost 10 years of the Viet Nam war. Further, he said, more than two million men are disabled in industrial accidents annually.

OSHA came into being, he said, because states were not fulfilling their responsibility in the areas of occupational safety and health. To



Limb-Lopper booth is typical of 50 carnival type tents for commercial exhibits at '72 ISTC. Exhibitors reported much interest in equipment. The upcoming 1973 ISTC convention is scheduled for Boston, Mass. No final date has been selected.

comply and live within the meaning of the Act, Holgdren said that he believed that a firm who made a practice of safe working conditions for employees over the past years would have little or no difficulty living with OSHA. He said that he believed that it is reasonable to assume that enforcement of the act will tend to upgrade the profession to the degree that those firms who

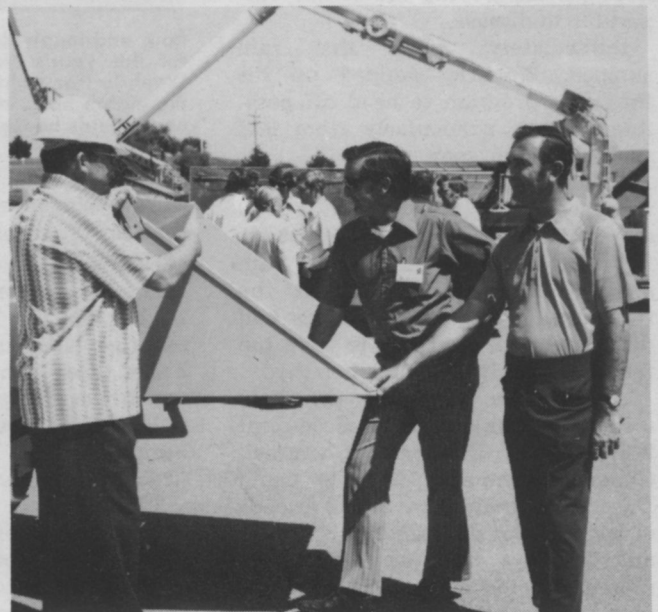
do not comply will gradually be upgraded or phased out.

Convention delegates and other speakers on specific phases of OSHA effect on the tree care industry apparently failed to agree with the simplicity of compliance voiced by Holgdren. One industry representative indicated that the current

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William T. Bell, superintendent for street trees, Long Beach, Calif., and general chairman for the California Conference, left, and George D. Foster, general sales manager for Skyworker, Delaware, Ohio, visit at evening barbecue.



John Dougherty, Asplundh, Azusa, Calif., left, discusses new model chipper with Charles H. Cissel, Guardian Tree Experts, Kesington, Md., center, and Robert E. Pletcher, Asplundh division manager, Azusa.

GROOMING THE MONSTER (from page 12)

much damage to turf when they are walking. But we knew there wouldn't be much turf left in the areas immediately surrounding each green where crowds would be standing and constantly shuffling their feet."

Woehrle drew on the experience of colleague Andy Bertoni, now superintendent of Holly Greens Country Club, Holly, Michigan. "Just prior to a major tournament at Meadowbrook in Detroit where Andy was superintendent at that time," Woehrle said, he overseeded the areas where he expected damage from the crowds. As predicted, the existing turf was demolished, but immediately after the tournament was over, Andy had new turf coming up."

Woehrle used the same concept for this year's PGA at Oakland Hills. One week before the start of practice rounds, and after the gallery ropes had been strung, Woehrle overseeded the area (approximately 10 feet wide) behind the ropes. "We did nothing more than put down seed over the healthy turf at about 1½ lbs./1000 sq. ft.," Woehrle stated, "and let the crowds work the seed into the ground for us. A day or so after the crowds were gone, we had new bluegrass coming up."

Only five weeks before the PGA another problem came up — tropical storm Agnes. Although Detroit was only skirted by Agnes, more than 3½ inches of rain fell in a 72-hour period, leaving the course vulnerable to disease.

Immediately after the rain stopped, Woehrle stepped up his fungicide program to head off possible trouble, particularly from leaf spot and dollar spot.

"I had been applying fungicide to the greens and fairways on a 7-10 day schedule at two ounces/1000 sq. ft.," said Woehrle. "After the rain stopped, I immediately doubled the rate until I was certain things had dried out enough. I like to keep the turf reasonably dry and healthy."

Among the fungicides Woehrle utilizes at Oakland Hills is Daconil 2787 from Diamond Shamrock Chemical Company. He began using Daconil to obtain control of a broader spectrum of diseases on his greens and fairways when he determined mercury would no longer be acceptable.

"A couple of years ago it was pretty obvious mercury would be on its way out," commented Woehrle,

"and I also noticed that the mercury was a little toxic to the turf, causing a temporary change in color. I didn't have this problem at Beverly (Woehrle was superintendent at Chicago's Beverly Country Club from 1959 to 1968) but I definitely did get a reaction here in Detroit."

Changes on some of the fairways and greens on the 7,054-yard course were also made for the tournament by Woehrle's 20-man crew. "We reduced the landing areas to 90-100 feet from the normal 110-120 feet," noted Woehrle, "and we added some prominent sand traps (more than 100 already existed) on several



Rain and tough rough made the course even more difficult during a practice round for this year's National PGA Championship tourney. Course superintendent Ted Woehrle (far right) offers solace to Jack Nicklaus as he surveys an errant drive on the eighth hole. Meanwhile, Arnold Palmer climbs aboard a groundskeeper tractor and shields himself from the downpour by an umbrella.

holes. Our sand traps are not manicured. We have a very rugged lip similar to traps in Scotland; we never touch it."

The par for members is normally 72, but for the PGA we made two par five holes into long par four's. All of these things made the course, which was designed by Donald Ross in 1917 and toughened by Robert Trent Jones in 1951, about as difficult as it has ever been.

Truck drivers and the press were two elements of tournament week upon which Woehrle focused much of his attention.

His past experience with major tournaments, including two Western Opens at Beverly convinced him that the single biggest problem came

from trucks delivering the variety of goods necessary to the tournament, ranging from beer to sanitary facilities.

"Delivery truckers seem to share a common philosophy," Woehrle commented, "that the shortest distance between two points is a straight line. Once they pull on the grounds and see the tent they're supposed to go to, they head straight for it — across fairways, tees or whatever."

For this tournament, Woehrle made it standard operating procedure that no truck was allowed on the grounds without one of his men accompanying the driver. "It eliminated a lot of problems," he

recalls, "such as the time a hot dog bun delivery van pulled on the course, and headed directly for the concession tent in the middle of the course. He would have made it non-stop, but he came to a tee. He got out of the truck, dropped the ropes, and drove over the tee. When I approached him about it, he offered me a dozen buns to forget the incident."

"During another major tournament, a beer truck got stuck in the middle of a fairway. Fortunately, the truck was close enough to the tee so the players could hit over it. But we had to unload every case of beer and call in a large wrecker, which left more tracks, to get the truck out.