Tree Care Industry

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Number 12

Arborist Day at Arlington
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Last month almost 400 arborists from around the country gathered
at Arlington National Cemetery to give a special gift to the American people.

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COVER PHOTO:
Arborists care for trees in Arlington National Cemetery as a gift to the American people.
Photo by Bill Phillips.
On a foggy Saturday morning in October as the sun was coming up, the volunteers arrived at Arlington National Cemetery. Their purpose was to present a gift of public service to the environment and to the American people. These were tree people, primarily from member firms of the National Arborist Association.

If ever a spirit of true American enthusiasm and giving was evident, it was at Arlington on that Saturday. Everybody was represented - large and small companies and men and women of all ethnic backgrounds. They worked all day in harmony as if they had worked together for months.

A few seemed to disappear when it came time to clean up the brush, but in most cases everybody stuck together doing what they did best - providing expert tree care. The intensity and the display of skills was exceptional. A recruiter for a tree care firm would have thought he had died and gone to heaven with the awesome talent displayed before him. And, everyone worked safely, leaving our Red Cross First Aid team with nothing to do.

No political celebrities showed up. But the real celebrities of the day were the people doing the work, and they were excited about what they were doing. At the end of the day, they were tired but their fatigue didn’t diminish their excitement. In fact, many asked if this would be an annual event, and if it would be possible to work two days instead of one. Mainly, they were excited that they had given a gift to the American people and helped to preserve, protect and perpetuate the environment. Their efforts were publicized all over the country with extensive coverage in print and on television. And cemetery officials were ecstatic with the quality and quantity of the work that was done which was good tree care.

Many people were responsible for this event, too many to mention. But there was one person who was specifically responsible for this whole project - Paul Wolfe, president of Integrated Plant Care, Rockville, Maryland. Thank you, Paul.

I am very proud of the people who did the work, made the event happen and had the opportunity to bask in the sunlight of such a huge success.

Robert Felix, Publisher
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Arboriculture & Wildlife

Prescriptions for Backyard Bio-Diversity

By Fred Clark

I got my first inspiration for writing this article over five years ago when I was working on an estate in eastern Long Island, pruning deadwood out of a large butternut tree from a bucket truck. I swung over to a dead stub about 10 inches in diameter, started my saw and cut through the stub about half way up. As I finished the cut a cloud of feathers blew up from inside the hollow stem. I looked down in horror to see the headless body of what appeared to be an owl inside its cavity nest. I had been moving fast. It probably took no more than five or six seconds to start my saw and make that cut - certainly not enough time for the luckless owl to escape.

I came down to try to find the head. Sure enough, it was a Barred owl, a common cavity nester. I looked up just in time to see my customer walking toward me. Sensing a potential public relations disaster, I pointed out all the beautiful cuts I had made in her tree to divert her attention from the accident that had just occurred.

It didn't take a brain surgeon to figure out that my customer would have been unhappy to learn that I had killed an owl in the process of pruning her tree. Yet, most arborists with even a moderate amount of experience have had similar encounters, making casualties or refugees out of raccoons, squirrels, songbirds and other wildlife. Are we best serving the needs and interests of our customers when we do this? Are there any alternatives?

Many of our customers are likely to be receptive to suggestions on managing their backyard for wildlife. They might even spend good money on it. Let's look at the opportunity presented by taking a broader approach to landscape maintenance.

Retaining natural habitat

Many wildlife species of the urban forest nest in cavities or other natural openings in trees. These include common mammals such as raccoons and squirrels, as well many species of songbirds, owls and even water fowl such as wood ducks. Wildlife species, just like trees, vary from region to region and each has a unique set of habitat preferences. The property lo-
When these American elms at an environmental center died, wildlife managers simply had them topped off. These high-rise hotels are now being used by wrens and chickadees. Debarking the standing stems would be desirable if sanitation is necessary to prevent disease spread.

A pretty house, but it has several design flaws to watch for. The opening has been chewed out by squirrels and is too big to offer protection to most desirable nesting birds. Also, the placement provides easy access to rodents, raccoons and house cats.

Creating habitat
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Creating artificial habitat

Many property owners have an interest in attracting wildlife, but lack any suitable natural habitat. Perhaps their trees are all too young to have developed protected nesting habitat. Perhaps topping or retaining stubs is not an option because nesting habitat is to select low-value trees and kill and/or top them, or simply cut large branches leaving long stubs. This is particularly appropriate with soft-wooded species such as silver maple, red maple, cottonwood or aspen because they decay faster and are generally more attractive to “excavators” such as woodpeckers. In fact, woodpeckers have a visual “search image” for large stubs, apparently because it usually means rotten wood and soft pecking.

This was made clear to me once when a friend of mine, a wildlife biologist, hired me to top off some aspens in his back yard. After I gave him the usual lecture about the horrors of topping, he explained his objective, which was to create nesting habitat. I was amazed to see a red-bellied woodpecker attacking one of the sticks within minutes after I had topped them off to a safe 20-foot height. While woodpeckers are known as primary excavators, moving out to new territory every year, the nests that they excavate are often taken over (in the eastern U.S.) by chickadees, wrens and other songbirds, providing valuable habitat for many years.

“Let me get this straight,” you say. “Kill live trees and intentionally cut long stubs. What is this, the April Fools Day edition of Tree Care Industry?”

Is everything we learned as arborists about proper tree care meaningless? Of course not. But it wouldn’t hurt to widen our field of view with regard to the properties we help manage. The urban forest provides many values to society. Landscape trees should be managed based on their best contribution to those values. A high-value ornamental or shade tree which is a center of focus in the landscape deserves the type of management we arborists have been traditionally trained to provide. But if our customer’s objectives or interests include other values such as wildlife, or just a more natural appearing landscape, we should learn to consider these values and manage for them where possible. Think that means less work for you? It could mean more.

Do you have a shop? Do you have bad weather days when the crew would otherwise be sent home? Clear some of those junk saws out of the way and use those days to have your crew build nest boxes or nest platforms. Plans are available for all types of structures, from eagle platforms to house wren and wood duck boxes, and they are easy to build with inexpensive materials. If you have an aerial lift truck, it will facilitate mounting the boxes in the right places. Once you get good at it, donating this service to schools or institutions could make great public relations. Provided you have customers with an interest, the most difficult part may be determining what type of boxes to build and where to place them.

An important thing to avoid is to just put up “birdhouses.” You will need to evaluate the surrounding habitat first. You’re not likely to attract many wood ducks to downtown Philadelphia, no matter how nice a box you put up.

You’ll also want to evaluate the owner’s objectives and needs as fully as possible. Are mosquitos a nuisance? You can attract insectivorous bats or purple martins with appropriate boxes. You can start by getting advice from local wildlife specialists from your state’s conservation or natural resources department. These agencies should be able to help you and the landowner identify wildlife species to target (and possibly lend you some credibility with the landowner).

Once you have one or more species in mind for a particular property, you can build from a plan designed for that species. Following plan dimensions is important to ensure the species is able to use the box. For example, an opening that is too large in a wren house will permit house sparrows and starlings to invade the box. They will kill the wrens and take over the nest. Fortunately, there are excellent and easy-to-understand references on building, installing and maintaining nest boxes to attract wildlife.

A note on pesticides. It would be a cruel irony to go to the trouble and expense of attracting songbirds and other wildlife to a property only to poison them (and their hatchlings) with two to three general purpose foliar sprays during the spring...
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nestic season.

When pesticide treatments are required, select those that will minimize exposure to wildlife. Trunk injection should be preferred, where it is an option, particularly with large trees that would require high-volume spray applications. If an insect infestation requires spraying large trees, growth regulators such as Dimilin or biological insecticides such as Bt will generally minimize adverse effects on birds and mammals.

The upshot

Environmental issues are increasingly at the forefront of public debate. Most Americans, particularly those who are well-educated and well off (many of our best customers), will describe themselves as "environmentalists" when surveyed. They are becoming better organized and are making themselves heard through groups like the Sierra Club and The Nature Conservancy.

Foresters in the U.S. have already heard plenty from these groups. Through lawsuits and new legislation, environmental groups are forcing foresters to move away from their traditional focus on timber management. Under this public pressure, foresters and land managers are learning to recognize and accommodate the biological diversity inherent in forest ecosystems. Many of the citizens who have created this pressure are also our customers in the tree care industry. If these politically active people turn their attention to the urban forest (as many have), arborists could soon find themselves in the situation that foresters find themselves today.

Does this situation represent a threat to the tree care business? Possibly, but it is really no different from the threat arborists faced in the 1980s when new pesticide regulations and soaring liability insurance rates forced many to reevaluate their spray programs. The result was a truly revolutionary shift toward Integrated Pest Management. Those progressive companies who developed IPM programs were able to increase volume as they attracted new, environmentally sensitive customers and increase profits as they benefited from reduced material costs.

Arborists, our customers and society could all benefit from a more holistic approach to tree care, an approach that most of our customers would likely support. There is an opportunity for an increased scope of services if, instead of viewing ourselves as simply tree people, we can learn to view ourselves as managers of the urban environment.

Fred Clark is a forest ecologist with Wisconsin DNR, Bureau of Forestry.
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Prior to that, he was a commercial arborist, and spent his last three years as a manager and sales representative for two well known East coast firms. He will be a featured speaker at TCI Expo '93, November 18-20 in Cleveland.

Suggested Reading

Enhancement of Wildlife Habitat on Private Land.
D.J. Decker and J.W. Kelley. 1982. NYS College of Agriculture and Life Sciences, Cornell University. To order contact: Cornell Cooperative Extension Distribution Center, 7 Research Park, Cornell University, Ithaca, NY. 14850

Dead Wood for Wildlife, J. Hassinger and J. Payne. 1985. Penn State Univ., Woodland Series 7. To order contact: Forest Resources Extension, Penn State University, Box 6000, University Park, PA. 16802.


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I watched a close friend/climber get life-flighted to Jax Medical Center in Miami after falling 40 feet from an oak tree to a wood deck below. The reason? He had attached his safety strap to his paint can ring instead of hooking it into his D-ring.

After climbing 28 years myself, I wondered how my friend could have been that careless, resulting in serious injuries and expensive medical bills. Then on September 20, it almost happened to me. I was in the process of removing a 90-foot pine tree and looked down to check my safety strap. To my astonishment, I had hooked my safety strap into my paint can snap. How could I have been that stupid? After backtracking the events, I realized the last time I unhooked my safety strap I had hooked it temporarily to my paint can snap ring. Then when it was time to strap in again, I hooked the other side of my strap to my D-ring, not realizing the other side of my strap was still hooked to my paint can ring. I hope this letter encourages anyone that climbs to take every precaution necessary to prevent this from happening to them. It happened to me, it happened to my friend. It could happen to you.

Wes Geiger
Jacksonville Tree Service
Jacksonville, Florida

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Watch Your Language

Non-English-speaking Employees Present A Special Challenge

By Brian Barnard

All industries carry some danger. The level of danger varies by occupation, as does the ability of the employer to anticipate hazardous situations.

Regardless of the profession, employers are required by law to inform all employees of the hazards of a job duty. This presents a challenge for employers with a high percentage of non-English speaking employees.

The relevance of providing safety training to non-English speaking employees will affect just about every tree company in the near future. The pool of 18- to 24-year-old entry-level laborers shrank by 30% in the last decade. The labor pool that the tree care industry has traditionally hired from has continued to shrink by about 5% per year for the last three years. As a result, tree companies are going outside the traditional labor pool to find employees, many of whom cannot speak or read English.

Past events reinforce the importance of safety training for employees, regardless of their fluency in English.

In the nation’s first workplace homicide case, a former president, a plant foreman and a plant manager of an Illinois film recovery plant this summer pleaded guilty in a murder case involving the 1983 occupational death of a Polish immigrant. Prosecutors called this case the nation’s first application of criminal homicide laws to an occupational death.

The worker died from cyanide poisoning. Most of the firm’s employees were Mexican and Polish workers who did not speak or read English. According to the Assistant State Attorney, employees had not been told that they were working with cyanide and were never issued protective equipment.

Tree service owners are not excluded from prison terms if employers fail to provide safety training for employees. In 1986, the owner of a Los Angeles tree service was sentenced to jail in connection with a tree trimmer’s death. The owner pleaded no contest to charges that he failed to train employees properly and that he allowed employees to work within six feet of high-voltage wires. Tree workers without proper electrical hazards training must remain 10 feet from electrical conductors.

The tree service owner was sentenced to a 90-day jail term, was ordered to pay an $850 fine and was put on probation for three years. The judge suspended 60 days of the sentence. The owner’s partner also pleaded no contest to a charge of failing to train employees properly. He was ordered to pay an $8500 fine and placed on probation, even though he was not present at the October 1985 incident.

Legislation to revise the Occupational Safety and Health Act (OSHA) is pending in Congress, and is likely to include increased criminal sanctions against employers. The Labor Department has requested stronger penalties for many years. In a recent report to Congress, Acting Inspector General Charles Masten expressed concern over weak criminal penalties for OSHA violators.

Complete reform of OSHA may occur in the near future, but the underlying principle of OSHA will never change. Employers must implement, document and enforce safety programs for all employees.

Finding multi-lingual safety training programs is a problem. To ease this challenge, some tree firms use an interpreter, often an employee, to present safety programs to employees. The English-speaking safety director reads a paragraph of the safety manual, and the interpreter repeats the information. To increase understanding, questions are asked and verbal quizzes are often administered on the material. Physical demonstrations of safety procedures also help employees to understand the material.

Documentation is an important aspect of the safety program, but this is the grey area for non-English programs. How does the employer know if the non-English speaking employee understands? If the employee nods his head acknowledging understanding, then the documentation forms are signed. One way to improve understanding, says a tree company safety director, is to make documentation forms in the language the individual can read.

During an inspection, an OSHA official will inquire about the employer’s written safety program. If written documentation is not available, in the eyes of the OSHA inspector, safety training does not exist. Employers must be able to prove that safety training takes place.

Safety programs specially designed for Spanish-speaking arborists are available from the National Arborist Association in Amherst, New Hampshire, including six video programs. Home study modules on electrical hazard awareness will be released soon.

Increasing numbers of minority groups are filling entry-level tree care jobs. Increasing criminal penalties for employers who fail to adequately train employees is being discussed. These two facts cannot be ignored by tree firm owners, managers and safety directors, making the implementation of multi-lingual safety training paramount.
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Trade Shows Pay Off

.... If You Avoid These Common Mistakes

By Phillip M. Perry

Going to a trade show? Beware. It's easy to make any number of common mistakes that can turn your productive buying trip into an expensive bomb.

"Attending a trade show is an investment in time," says Steve Miller, who runs a consulting firm called Adventure of Trade Shows, in Federal Way, Washington. "And time is the currency of the 1990s."

How true. Given the business opportunities you forego to attend the show, the hours you spend navigating the aisles can be more expensive than the actual cash outlay for flight and hotel room.

So how can you get a solid return on all this investment in time and money? Seven trade show consultants pinpoint the most common errors by trade show visitors - then tell you how to avoid making them.

1. Neglecting advance planning. "I would really stress the importance of preparing for your visit far in advance," says Dr. Richard J. Brunken, president of Human Resources Development, Milwaukee, Wisconsin.

Indeed, most consultants cite the lack of sufficient advance planning as the number one reason why trade show visitors spin their wheels. They advise marking your calendar a month prior to the trade show. That's when you should start thinking about two things: your goals for attending the show and your strategy for reaching those goals.

2. Defining goals that are too general. When deciding what you want from the show, avoid general statements such as "seeing what's new" or "seeing our suppliers." At the end of the show you feel as though you failed to accomplish all you could.

Miller offers a better way. "Ask yourself what is the biggest problem you have in your business," he suggests. "Write it down in the form of a question on a piece of paper. Then take it to the show with the idea of getting answers from the staffers in the booths."

One question - or a series of similar questions - will keep you focused on what you really need to accomplish at the show.

3. Not developing a strategy to reach goals. You may fail to reach your goals because you did not plot a detailed strategy. "Define a game plan so all your steps are laid out before you arrive at the show," says JoAnn R. Hines, who attends close to 20 shows every year as president of the consulting firm of Hines & Associates, Ackworth, Georgia.

The steps in the strategy should result in achieving your stated goals. Examples:

- See X number of vendors to find the best sources for a specific product. Call our top six supplies prior to the show to set appointments - and to forewarn them that we will be asking how they can help us.

Part of a successful strategy is to allocate tasks among co-workers who will be attending the show. Do this early enough to avoid the duplication of effort that would otherwise result when different people plan to accomplish the same goals.

4. Failing to get a floor plan and booth directory in advance. Most shows have floor plans that list booths numerically and directories which list exhibitors alphabetically. Well in advance of the show, ask the managing company to send you both documents.

"Cross-reference the directory with the floor plan to lay out a walking plan which maximizes the time you spend at the show," says Hines. The savings in hours will assure that you reach your goals.

"Most people just turn to the right and go down the aisle to start the show," says Hines.

And what if an advance copy of the directory is not available? "Many shows that don't send out directories will send you their exhibitors registration lists," advises Hines. And if all else fails: "Use last year's directory. Most of the time, people are in the same booths."

5. Not prioritizing sections of the floor plan. Try to estimate how many booths you will be able to visit for the time you have at the show. "The average attendee spends about 13 minutes at each exhibit targeted for a visit," says Brett Fisher, marketing manager of the Trade Show Bureau, a Denver association that studies...
"Why did we join the National Arborist Association?"

To learn to run my business better.
Randy Owen, R.J. Owen Tree Service, Lum, Michigan

One of the many reasons is NAA's Safety Programs.
Mark Tobin, President, Greymont Tree Specialists, Inc., Needham, MA

To get their cost-effective training programs.
Bill Kucharski, Trees Are Us Professional Tree Service, Milford, NH

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Because of all the benefits that I couldn't buy for 10 times the dues.
Paul Wolfe II, Integrated Plant Care, Rockville, MD

To learn from other industry professionals.
Tom Golon, Wonderland Tree Care, Inc., Oyster Bay, NY

To make my company more efficient.
Chuck Edmondson, President, Alfred's Superior Tree Service, Wichita, Kansas

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the industry. "To that you must add your walking time, eating, resting and the chance encounters with peers."

Considering that slack time, figure you can visit maybe three booths each hour. These are booths run by exhibitors you specifically want to see - not unknown booths where you stop for quick looks while walking the aisles.

Okay. That comes to 18 booths in a 6-hour period. Select these booths as your "Priority 1" selections and mark them with a green marker. Write general guidelines for seeing X number of these booths per hour. You want to see these exhibitors without fail.

Select a number of "Priority 2" booths and mark them with yellow. You see these booths during slack time between the green booths. Then use red marker for the peripheral area of the show with the small vendors. (More about these below.)

Now you have a visual aid for walking the floor. You can check off the booths as you see them and monitor your progress in getting through your top priority steps.

6. Making too many appointments. Don't get carried away when you make appointments. Trying to squeeze too many in one day can actually make you less effective on the floor. That's because you can easily fall behind and start rushing from one appointment to another before you have all the information you need.

"Rather than setting definite appointment times, I suggest you tell the booth staffers you will drop by during certain windows of time," says Hines. "Say something like, 'I'll drop by between this and that time..." If the staffer is busy when you drop by, don't waste time hanging around. Leave word about the next "window" of time in which you’ll drop by, then move on.

7. Carrying too much. Travel light. Hauling a briefcase and other unnecessary items can slow you down and tire you out, making you less effective in the booths. If possible, carry only what you need to take notes, along with your specific questions and your floor plan.

8. Wearing the wrong shoes. More a problem than you might think, this mistake was universally cited as a damaging error that can erode productivity.

"Select a good walking shoe that has a compliant outsole," advises Dr. Steven I. Subotnick, a podiatrist in Hayward, California. "That means that the sole is not hard leather, but is soft and rubber-like, so that it absorbs shocks easily."

9. Not previewing the show. Schedule some time to "scope" the show before you start the walk that you have laid out. Walk the entire show floor quickly, looking for unexpected exhibitors or products. Take notes on what looks interesting. Then sit down and adjust your color-coded floor plan and walking path to include them.

10. Following the crowd. You are showing your independence from the mob by planning a productive trade show visit. Take that one step further: Walk the show in reverse. "You will get faster attention from the booth staffers if you walk against the traffic," says Bob Donath, a trade show consultant in White Plains, New York. "Most visitors start in the front of the show and crowd the booths. If you start in the back, you will be talking with staffers who..."

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are not already crowded by other buyers. You will be able to cover a lot more booths right off the bat."

11. **Ignoring the small booths.** While you don't want to spend too much time at them, the smaller and newer booths can provide leads for new products and ideas that can make your visit even more successful. "You'll see lots of interesting, off-the-wall stuff from exhibitors who are new to the show," says Donath. "These booths are great for generating creative ideas."

Don't make the mistake of ignoring them. The trick is to cover a lot of them fast. Get in and get out quickly, taking notes on new items you can use.

If you follow the advice above about working against the traffic, you may be hitting a lot of these small booths early in the morning because you are starting in the slow section of the floor. That's good. You can cover more of them.

12. **Not steering the conversation at the booths.** "As the buyer, you are the one in control," says Robert F. Dallmeyer, president of R. D. International, a Los Angeles consulting firm. "Never forget that. Don't be afraid to exercise your control by steering the conversation at the booths."

That means interrupting a booth staffer who is waxing eloquent on some features of his product that don't concern you, and navigating the conversation toward benefits that will help you make more money. What has research shown about how the revised product will better meet your needs?

Here's where your goal questions really come in handy. Miller suggests writing the question on several dozen 3-by-5-inch cards. When you get to each booth, hand the cards to a rep and ask how the company's products can solve your problem. That narrows down the dialogue to "grass roots" matters quickly. If the staffer doesn't have an answer right away, say you'll return later for the information.

Alternatively, use a statement such as, "I need to make a business decision" to readjust the booth staffer's pitch away from product features and toward your needs. Explain what the business decision is, then ask how the product at the booths can help you make that decision.

"If you find you know more about the product than the salesman does, move on."

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'Thinking a trade show is an investment in time. And time is the currency of the 1990s.'

Steve Miller, consultant

*Adventure of Trade Shows*

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TREE CARE INDUSTRY - NOVEMBER 1993
quickly to another booth,” says Brunken. You may jot down the name of a better qualified person who is expected to be at the booth later.

“Also, find out a way of verifying what the staffers say the product can do,” says Brunken. “Get the name of designers or other technical people whom you can call on the phone after the show.”

13. Writing sloppy notes. Jotting notes on the backs of business cards...in the margins of show directories...along the tops of product literature sheets...show visitors can think of as many ways to confuse themselves later as there are blank spots on paper.

Avoid them all. If you return home with a bunch of sloppy notes on all kinds of various paper, you’ll never get them organized enough to achieve the goals you set for the show.

“If you need to take a lot of notes, then a tape recorder is good,” says Hines. “If you want to jot down short personal responses to what you see, then use a small note pad that fits in your pocket.” Some attendees take photographs of displays.

14. Not exploiting “slow” hours. Every show has its hours when the aisle are calm. “This is the best time to make appointments, especially with your high-priority companies whom you really must see,” says Miller. “Find out when the slow times are by calling ahead and asking the exhibitors or others who have attended the show.”

15. Not monitoring promises to follow-up. Don’t let the exhibitor get away with breaking a promise to contact you with requested information. According to
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Also, if you register before January 7, 1994, you can deduct $25.00 from each registration fee for you and your spouse/guest!

Phillip M. Perry is a New York-based freelance writer specializing in business management.
Don't Risk Shocks

A Guide To Keeping You And Your Bucket Truck Safe

By Craig Keoun

Tree care professionals are exposed to significant electrical shock risks in their day-to-day work. In many ways, they are exposed to the same risks as electric utility linemen and they use the same, although often somewhat used, bucket truck equipment. As a general rule, however, most tree trimming companies have had less capital available than the utilities for proper use and care of this equipment and for training their people in maintenance practices and day-to-day operations. Still, companies in the tree trimming industry must keep knowledgeable about some of the important aspects of electrical protection relative to bucket trucks.

The equipment

American National Standards Institute Standard A92.2, most recently revised in 1990, prescribes the electrical insulation requirements for "Vehicle-Mounted Elevating and Rotating Aerial Devices," i.e., bucket trucks. Following are some general insulating principles that apply to bucket trucks, taking into consideration A92.2-1990.

- The standard does not consider the fiberglass bucket itself as having insulation value. While the bucket offers protection against contact with brush, it has no official insulation rating.
- Fiberglass buckets on new bucket trucks are to have no open holes or access passages.
- Polyethylene liners are considered as the insulation in the bucket area. New liners are to be qualification tested at 50kV 60Hz AC without flashover or breakdown, and liners are to be periodic/maintenance tested at 35kV 60Hz AC for one minute, or 100kV DC for three minutes without flashover or breakdown.
- The fiberglass upper boom provides the primary protection for the person in the bucket. For use on 69kV power lines, the upper boom periodic/maintenance test is to be at 60kV 60Hz AC for one minute with a maximum leakage current of 60 microamps, or at 84kV DC for three minutes with a maximum leakage current of 42 microamps.
- When a bucket truck is equipped with a lower insulator, the fiberglass insulator on the lower boom provides protection for a person on the truck or ground in case the steel below the upper boom fiberglass becomes energized. These lower insulators are to have periodic/maintenance tests at 35kV 60Hz AC for three minutes with leakage current less than three milliamps, or at 50kV DC for three minutes with leakage current less than 50 microamps.
- The operator must always be aware that nothing will protect him if he comes in contact with two energized lines or with an energized line and some other conductor.

Procedures to consider

The 1990 version of ANSI A92.2 was the first time that the standard provided that buckets should have no holes or open passages. Although the standard did not require closing holes on existing buckets, many utilities who used open buckets or who had drain holes in them are in the process of closing them. Meanwhile, they are acquiring liners for these buckets. Tree trimming companies might wish to do the same. Although there are no specific standards for insulation testing of the fiberglass buckets themselves, users may wish to have the holes or passages closed off by a fiberglass company that can also perform dielectric testing of the closed bucket to make sure that the work was properly and effectively done.

Operation and maintenance

A major problem our company sees with bucket trucks is that the user doesn't always pay proper attention to cleanliness on the inside of the booms. The booms must be kept clean. Dirt, grease, bird nests, etc., on the inside of the booms can be conductive and can create a conductive path, thereby negating the benefit from the fiberglass insulating systems.

Use polyethylene liners inside the bucket. When liners are damaged or cracked, they probably lose insulation value. Liners should be retested any time damage occurs to make sure that the insulation value is retained. If insulation value is lost, the liner can often be repaired by plastic welding and then retested to prove the effectiveness of the weld.

Use a competent fiberglass shop to close any holes and to repair structural damage to buckets. In tree trimmer repairs, we often see cuts in the bucket lips that have been made by saws. Have the buckets cosmetically refinished to give the operator a feeling of pride in his equipment. Even though the bucket has no official insulation rating, consider having the bucket dielectrically tested to provide additional insulation protection.

The complete unit, i.e., liner, upper boom and lower insulator, should be inspected on a regular schedule. Although
there is no official standard as to how often this dielectric testing should be done, most users with whom we work do the testing at least annually.

Although not necessarily a dielectric problem, it is important to remind tree trimming companies not to ignore saw cuts to fiberglass booms. Any cut other than possibly a slight superficial surface cut causes some loss of structural strength, and the cut should be examined and possibly repaired by a competent fiberglass company. When there is serious concern, a repair may be proven by a structural test of the boom at two times the rated load, with or without the aid of acoustic emission testing equipment.

Dirt may be removed from the surface of a fiberglass boom or bucket by applying a mild detergent followed with a coat of automotive wax. The wax will prolong the surface finish, and will aid in repelling moisture. Scuffs may be removed with a scouring powder or with a petroleum-base solvent. Do not use a steel wool pad as it may leave steel shavings embedded in the fiberglass and harm the insulation.

A final finishing coat of a high-grade, non-conductive epoxy-base enamel will often restore the surface finish of fiberglass.

Summary

Bucket trucks are necessary equipment in the tree trimming industry. Their insulation value is critical when an operator comes into contact with a hidden power line. Proper cleaning and periodic examination and testing will help ensure their life and functionality.

Craig Keoun is president of Plastic Composites Corporation in Fort Wayne, Indiana. PCC built the first fiberglass boom for a bucket truck in 1959 and has since built more fiberglass booms than any other company. PCC makes replacement fiberglass products and does repair and testing of fiberglass products for bucket trucks. It also distributes polyethylene liners.

Daily Inspection And Pre-operation Checklist

1. Inspect the boom and bucket for any signs of cracking or any cuts or nicks that expose the actual fiber through the resin coating.

2. Make sure that the boom and bucket are clean. Look for any excess dirt or contamination that might track over electrically. Remember that electricity tracks over the contamination on the fiberglass - not over the fiberglass itself.

3. Be sure that there are no wires or other conductive materials spanning the fiberglass boom as they will void all electrical ratings.

4. If there are holes in the bucket, make sure that there are no conductive materials passing through them.

5. Examine all cuts or nicks to see if repair is needed before the machine is used.
Separating the engine section from the handles by springs and rubber mounts greatly reduces the vibrations reaching the operator.

Saws Become Friendly

By Peter Gerstenberger

I have an old chain saw. It was manufactured in the days before chain brakes and anti-vibration systems were even concepts. Try as I might, I cannot kill it. In fact, in this adversarial relationship my saw and I have nurtured over many years, I suspect that the saw is gaining the upper hand.

I live in hope that one day I will be able to use it as a boat anchor or wheel chock. However, I cannot justify replacing a saw that starts every time I ask it to, and runs until its operator is out of gas.

To help me cope, I have made a casual study of the features on a modern-day saw. Should the beast in my toolshed ever die, I know exactly what features I want on its replacement, particularly those that help reduce operator fatigue or enhance operator safety.

Dave Dahlstrom, director of Marketing for Shindaiwa, sums it up this way: "To a professional cutter, anything that makes a chain saw less fatiguing to operate is likely to be viewed as a desirable safety feature, and can enhance the cutter's productivity by allowing him/her to spend more time using the saw."

Perhaps you have a saw like mine, or worse yet, a shop full of them. If so, please read on. It never hurts to dream.

Vertical cylinder design

The primary causes of operator fatigue are saw noise and vibration. Vertical cylinder design can greatly alleviate both of these unwanted elements.

Alex Bildeaux, territory manager for the Tilton Equipment Company, explains, "The vertical cylinder design helps to reduce the vibration in chain saws by causing the vibration from the cylinder to be perpendicular to the guide bar vibration. This causes them to cancel each other out, lowering vibration. When the cylinder is horizontal, the vibrations are on the same line, producing increased vibration."

Mark Michaels, Forestry Product Merchandising manager with Husqvarna Forest & Garden Co., adds that this design allows the use of a larger muffler, which reduces noise. It also allows better air filtration.

Vibration dampening on my saw consists of a pair of slightly oversize gloves with sponges stuffed into the palms - I picked up this trick from my brother, who used to operate a 90-pound jackhammer. There have been considerable improvements in chain saw anti-vibe technology since then.

The term "two-mass anti-vibration" refers to when chain saw manufacturers separate the main body of the saw - the engine mass - from the handles. Anti-vibration mounts or vibration dampening are synonymous terms that describe this improvement.

There are two kinds of anti-vibration mounts. One is made of rubber, the other of steel springs. Says Bildeaux: "I believe no one should use a chain saw unless it is equipped with some form of anti-vibration system. I recommend steel spring mounts when purchasing a new saw. Steel spring mounts last longer and absorb more vibration than rubber mounts. The anti-vibration systems are designed to make
Husqvarna revolutionized the industry by inventing the chain brake and the inertia-activated chain brake.

Mainly, they are to help prevent carpal tunnel syndrome from developing in the operator's wrists. Carpal tunnel syndrome is a chronic ailment that develops, in this case, from excessive vibration in the wrists or hands. Loggers sometimes call this "white fingers." Remember, manufacturers make some chain saws with rubber mounts, some with steel spring mounts, and some with both. When comparing saws, know what type of anti-vibe system you are looking at. Rubber-coated handles further reduce vibration and prevent hands from slipping.

Starting a saw doesn't have to be overly tiring or dangerous. The key element in safe starting is the operator's starting technique. There are certain features in some saws that also improve starting.

Decompression valves make it easier to start chain saws. While you might question why they are necessary on some smaller models, they help to ease the initial shock on large saws with high compression. Still, they add to the cost of the saw, not to mention the possibility of malfunctioning.

The ignition on Shindaiwa's model 757, the company's largest production model, features a specially designed advance curve that prevents backfiring during starting. Saw users should avoid saws with recoils that can snap starting ropes from their hands.

Some saws have ergonomically angled front handles, which allow operators to keep their left wrist in a straighter, more comfortable position. Having personally operated a Husqvarna pro model with this handle configuration, I can say that it is comfortable.

Some do not like this feature, however. Bildeaux, a professional saw user, claims, "I believe it is up to the operator's personal preference. I do know that it makes it hard to aim the first cut of the 90-degree or open-face notch when the top handle of the saw is angled. The angled front handle also reduces the handle spacing (in one position) of your hands, which could lead to loss of control of the saw in the event of a kickback."

Chain brakes

Experts do not recommend using a chain saw without a chain brake. They have been proven to significantly reduce the chain saw easier on the operator.
chances of a kickback injury. All chain brakes stop the chain from turning in the same way. A band of steel wraps around the drive sprocket. When activated, it squeezes the drive sprocket and stops the chain. It is a requirement that the brake stop the chain in one-tenth of a second or less.

Although they may look the same from the outside of the saw, chain brakes differ in how the band of steel is activated. With lever-activated chain brakes, the operator must contact the chain brake handle to activate the brake. Inertia-activated or knee-link chain brakes, the latest and fastest, activate the band of steel not only by contacting the brake handle, but also by the energy created in a kickback accident.

“I recommend the inertia chain brakes for two reasons,” says Bildeaux. “First, they are the newest and fastest, and second, they work no matter what position the saw might be in, i.e. limbing, bucking, felling.”

Another safety feature worth mentioning is the safety lock-out trigger on top of the rear handle. It prevents accidental acceleration of the saw, such as when you’re walking to the next cut with the saw running. Remember the OSHA rule: Never carry a chain saw more than 50 feet while it is running.

Even the oil is friendlier
Can you recall any new environmentally sensitive product that was less costly than its more polluting counterparts? The idea of gain without pain seems too good
to be true. Thus, when a biodegradable bar and chain oil was introduced last year, as expected, its per-gallon price was nearly twice that of petroleum products.

Biodegradable bar and chain oil is made from canola oil, a farm product that biodegrades naturally through reaction with soil organisms. It does not harm the environment. Several chain saw manufacturers market canola/petroleum blends. The Green Oil Company in Pennsylvania markets a product that contains no petroleum-derived ingredients.

The health and environmental benefits alone were enough for at least two companies in the U.S. to blend biodegradable products. These benefits also prompted most public and private foresters, environmental agencies and others in several European nations to buy it.

The Forest Engineering Research Institute of Canada (FERIC), Western Branch, has been doing research for some time on the use of biodegradable products by the forest products industry.

The results of FERIC studies show that 97% of a vegetable oil-based lubricant biodegrades within 21 days. "By contrast, a liter of mineral oil lubricant can pollute one million liters of water," the studies state.

What are the economics of using a canola-based bar and chain oil? The FERIC research confirmed that vegetable oil lubricants adhere to metal surfaces more firmly, have a high flashpoint and a high viscosity index. According to reports, these factors result in a 50% savings in the amount of lubricant used, as the lubricator can be adjusted down when using the canola oil lubricant.

Further claims state that using vegetable oil reduces wear and tear on the bar and chain and can add as much as 50% to their life.

Operator training
Improvements in the chain saw over the years have benefitted worker safety. So too has the introduction of ballistic clothing and helmets with attached ear muffs and visors. However, the most important component of chain saw safety is the operator. The safest operator is the one who knows his saw and its limitations, as well as his own. Not surprisingly, the safest operator is also the most productive operator.

To be accident-free and productive with a saw requires constant vigilance of both the saw and things in the environment that might interfere with its safe operation. The operator carries a certain attitude to every job. Good training helps instill this attitude.

What kind of training is available? The National Arborist Association sells two videos - "Chain Saw Selection & Maintenance" and "Chain Saw Use & Safety" - that provide a good overview of saw use, especially from the arborist's perspective. For more information, call the NAA at 1-800-733-2622. In addition, several chain saw manufacturers produce videos and manuals. Check with your dealer.

Some manufacturers sponsor more intensive, hands-on training. While traditionally geared toward timber harvesting, these programs have a lot to offer the arborist. Think of them like cross-training.

Husqvarna has a new video program entitled "Sensible Wood Cutting." Available through dealers, the video was
developed with the assistance of Soren Eriksson, world renowned logging expert, and Forest Applications Training instructor Tim Ard. For more information, call 800-GET-SAWS.

Eriksson created the “Game of Logging” training program. Together with Ard, Eriksson has trained several thousand loggers and arborists with his program.

Eriksson, who is a consultant for Husqvarna, is the first to point out that professional chain saw use is anything but a game. However, he uses a controlled environment of friendly competition along with plenty of positive reinforcement to spur interest in learning advanced felling, limbing and bucking techniques.

He and Ard host regional “competitions” around the country that culminate in the “Game of Logging” national final. The national champion receives a $10,000 prize. This year’s final was held in conjunction with the Paul Bunyan show in Nelsonville, Ohio, on October 2.

For more information on the training, write to Tim Ard, “Game of Logging” instructor, 9137 Ridge Road, Hiram, GA 30141, or call 404-943-4745.

Tilton Equipment Co. also offers a comprehensive training program that can be adapted for any group of people, from first-time users to professional loggers. The program covers many aspects of chain saws from safety features, how to sharpen the saw chain, accident prevention and safety clothing. If possible, the program is conducted out in the field and demonstrates proper felling, limbing and bucking techniques.

Tilton Equipment has two instructors, Dan Tilton and Bildeaux. Tilton has traveled to Sweden to train with many safety instructors there and has more than 15 years experience in teaching Swedish forestry techniques. Bildeaux has seven years experience teaching the safety program, six years professional logging experience, two years experience as a chain saw repair shop owner-operator, and 15 years experience racing chain saws on world and national circuits, with seven national titles since 1983. The two instructors have taught more than 2000 safety seminars to various groups, from professional arborists and loggers to students.

For more information about Tilton’s safety programs call either Tilton at 603-964-6560 or Bildeaux at 612-483-5488.

Almost everything about chain saws has been improved dramatically in recent years. The difficult part will be sorting through the hype and information when you purchase your next saw. Take the time to compare various brands to find a saw with the features that will help make you a safe and productive operator.

Peter Gerstenberger has been Director of Safety & Education for the National Arborist Association for eight years and a professional arborist for 16 years.

Information on vegetable-based bar and chain oil came from Ira N. Pierce of the Green Oil Company, 1013 Union Meeting Road, P.O. Box 577, Blue Bell, PA 19422. Green Oil’s phone number is 800-234-0155.
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1. The average chain saw produces noise levels in the range of ____ to ____ decibels.
   A. 60 - 80
   B. 80 - 100
   C. 100 - 120
   D. 120 - 140

2. Noise levels must not exceed ____ decibels on an 8-hour time weighted average or your hearing can become permanently damaged.
   A. 70
   B. 85-90
   C. 100
   D. 105

3. When using chain saws in trees, always secure chain saws weighing ____ pounds or more with a separate line secured to the tree in a separate crotch so it will swing away from you in the event of an accident.
   A. 5
   B. 10
   C. 15
   D. 20

4. The anti-vibration system on a chain saw should be frequently inspected to prevent the following irreversible disease(s)?
   A. White Finger Disease
   B. Carpal Tunnel Syndrome
   C. Old Timers’s Disease
   D. Both A and B

5. Why is it important NOT to lower the depth gauge or “raker” on a chain saw chain below the recommended manufacturer’s specifications?
   A. It’s against the law
   B. It causes the cutter to take too deep of a “bite” into the wood thereby causing potentially dangerous “kickback.”
   C. The chain won’t cut at all with the rakers filed too low
   D. Your chain won’t look as cool as the other guys

6. Competent arborists avoid cutting with:
   A. a dull chain

7. If you have to use one hand on a chain saw to reach the branch you intend to cut, it would be safer to shut the saw off and make the cut with a hand saw.
   A. True
   B. False

8. Name four chain saw safety devices which have helped reduce the number of kickback injuries in recent years.
   B. the guide bar tip or nose
   C. one hand only
   D. all of the above

9. When bucking with a chain saw, your body should be positioned entirely ___ the chain saw so as to prevent any upward movement of the saw from striking your body.
   A. to the right of
   B. to the left of
   C. directly behind
   D. in front of

10. Always use a notch cut and a back-cut when felling trees over ____ inches in diameter at breast height.
    A. 3
    B. 4
    C. 5
    D. 6

11. When cutting with a chain saw, always be sure the chain is moving at high RPM’s before making contact with the wood.
    A. True
    B. False

12. When cutting logs which are secured or supported on both ends, start with a top cut on the upper portion of the log followed by an undercut to:
    A. prevent splitting of the log
    B. prevent pinching the bar
    C. both A and B
    D. none of the above

13. Chain saws operate at very high engine and chain RPM’s and produce hundreds of pounds of thrust resulting in kick back which occurs ____ times faster than your brain can react with the necessary reflexes to stop it.
    A. 3 to 5

14. From a safety standpoint, why might it NOT be advisable to cut completely through a limb with your chain saw?
   A. 7 to 7.5
   B. 8 to 10
   C. 10 to 12

15. When using chain saws in an aerial lift device, the chain saw should:
    A. not be attached to anything
    B. be attached to the operator
    C. be attached to the aerial lift device
    D. none of the above

16. When clearing an escape route from a tree during a felling operation, the direction of the escape path or route should be:
    A. opposite the direction of fall
    B. parallel to the line of fall
    C. under the tree
    D. away from the line of fall at a 45-degree angle

17. If you wear a hardhat with a face shield to prevent eye injuries, you must still wear eye protection.
    A. True
    B. False

18. How should chain saws be secured to a tree climber?

19. Kickback is the single most dangerous action of a chain saw.
    A. True
    B. False

20. When carrying a chain saw always remember to:
    A. shut the engine off while carrying it.
    B. orient the bar and chain to always point downhill when walking on slopes.
    C. carry the saw so the hot muffler is away from your body.
    D. all of the above.

21. Always clear debris and brush around the tree with your chain saw before making your felling cuts.
    A. True
    B. False
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22. What is the most dangerous kind of cutter configuration, resulting from improper filing, with regards to potential kickback?

23. Name two (2) pieces of safety apparel which must be worn when operating a chain saw. Name three (3) additional pieces of safety apparel that probably should be worn.

24. When bucking wood with a chain saw, what rules apply to your left thumb and your left elbow?

25. What are three (3) indications that your chain may need sharpening?

This test was compiled by Chris Carlson, a professor and Director of Horticulture Technology at Kent State University's Salem, Ohio campus.

ANSWER KEY

1. (C)

2. (B) According to the OSHA Hearing Conservation Act, hearing protectors must be available to all workers exposed to 8-hour TWA noise levels of 85 dB or above. The ear protector must reduce employee exposures to at least 90 dB and to 85 dB when an STS (Standard Threshold Shift) already has occurred in the worker's hearing.

3. (C), according to the current ANSI Z133.1-1988 Standard. The 1994 edition will increase the maximum allowable saw weight attached to the climber to 25 pounds, but until a new standard is published, it's 15 pounds.

4. (D) Both A and B are commonly used terms for this disorder.

5. (B) It causes the cutter to take too deep of a "bite" into the wood, increasing the chances of kickback.

6. (D) All of the above. Cutting with a dull chain, the tip of the bar and with only one hand all increase the chance of kickback and serious accidents.

7. True. By using a handsaw, you will have one hand available to help guide the branch's fall. Never operate a chain saw with one hand or serious kickback may result.

8. Four chain saw kickback devices include 1) Chain Brakes, 2) Safety Chain, 3) Reduced Kickback Guide Bars, and 4) Bar "Tip-Guards".

9. (B) Positioning your body in any position other than to the left of the chain saw puts you in a position for a kickback injury.

10. (C) Any trees larger than five (5) inches in diameter should be cut with a notch and back-cut combination according to OSHA recognized ANSI Z133 Standard.

11. True. Always make sure the chain is moving at high RPM prior to entering the wood or kickback may occur.

12. (C) An initial top cut followed by an undercut directly below the top cut will prevent the log from splitting and will also prevent you from pinching the bar, which

---

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TREE CARE INDUSTRY - NOVEMBER 1993

35
Consulting Arborists Form New Trade Association

A new trade association, the Professional Consulting Arborists of America (PCAA), was recently formed to set high standards and give widespread support to consultants in the tree care profession. Founding member Dick Proudfoot, general manager of Pruett Incorporated, in Lake Oswego, Oregon, said PCAA will provide networking opportunities, set standards of excellence and continuing education, publish a quarterly newsletter and annual membership directory and provide marketing referrals for its members.

Prospective members will be required to submit examples of consulting reports; obtain the sponsorship of another PCAA member, a peer in the industry or a client; and must earn annual continuing education credits.

Members must also adhere to "The Arborist's Creed and Principles of Practice." The creed, authored by Millard E. Blair in 1935, is a statement of principles that places respect and proper care of trees above all other interests of professional arborists.

"We want this organization to be an inspiration and a valuable tool for its members," said Proudfoot. "We also want it to be accessible. We realize that most professional arborists perform consulting work; we want to give them a way to come together, to learn from each other and to show their customers that they have the endorsement of a unified body."

The annual membership fee is $125. Contact John Kirkland, executive director, 605 SE 70th Ave. Portland, OR 97215. Phone: 503-254-0482.
Kent State University Now Offers Program In Horticulture Technology

Environmental careers in the green industry seem to be a fashionable trend as more people become educated and involved in protecting their environment.

To help meet the increasing demand for adequately trained personnel in the green industry professions, Kent State University recently established a new Horticulture Technology degree on the Kent State University-Salem Campus in Salem, Ohio. Kent Salem is one of seven, 2-year regional campuses within the Kent State University system.

Accredited by the North Central Association of Colleges and Schools, the Salem campus enrolled 929 students last fall and currently has 25 students enrolled in its Horticulture Technology program.

According to Chris Carlson, director of the program, the 66-credit horticulture technology curriculum was designed as a direct result of requests from local nurseries, tree care companies, landscaping firms and turfgrass managers throughout the region. This broad-based, plant-and-soil-oriented curriculum was developed with direct collaboration from industry leaders throughout the entire curriculum development process.

"In fact," says Carlson, "industry's role in the continued development of this curriculum is one of its foremost strengths. By listening to the needs of industry employers and training students with those needed skills, everyone wins - the student, the employer, the university, the citizens receiving the skills and education and the green industry in general, not to mention the economy of the region."

One of the major strengths of the Horticulture Technology curriculum is its integration of classroom lectures with required hands-on experience in outdoor labs. Students are required to practice what they have learned each week in outdoor lab settings with state-of-the-art tools and equipment supplied by the industry employers. This teaching methodology is used in each of the 12 technical core courses in the horticulture curriculum.

In addition to the rigorous outdoor lab requirements, students are also required to complete two on-the-job summer internships.

"In this way," says Carlson, "our students end up graduating with an exceptional amount of work experience and knowledge, a prime reason why the number of jobs offered graduates exceeds the number of graduating students."

Besides the internships, horticulture students are also encouraged to apply for work-study assignments as the campus begins to build its arboretum, Christmas tree plantation, ornamental nursery, fruit orchard and research demonstration plots.

Students entering the Horticulture Technology curriculum may major in one of three areas: tree and shrub care, landscape design and management, and professional turfgrass management. These three areas of emphasis were chosen after regional surveys conducted by Kent State indicated that job placement and salaries were good to excellent in these particular professions.

There are currently three faculty members in the program, for a 1:8 faculty-to-student teaching ratio. Students are also assured of having a permanent, full-time horticulture faculty member as their own advisor throughout their education. This allows for excellent student-to-advisor contact for special career guidance. If graduates decide to continue past the associate degree level, they can easily transfer credits to the Kent State's main campus and other major universities offering baccalaureate degrees in ornamental horticulture, landscape architecture, turfgrass management, nursery management or urban forestry.

Entrance requirements include a high school diploma or a GED and an application for admission. Financial assistance is available through various programs. The school also offers a scholarship program.

Direct job placement assistance is available to summer intern students and graduating students through Kent State's Career Placement Office, horticulture faculty and the program director.

For more information, contact Carlson at Kent State University - Salem Regional Campus, Salem, Ohio 44460.
A valuable tool is available to detect decay and/or voids in a tree to help determine if the tree is hazardous. Tests at the Karlsruhe Nuclear Research Center in Germany have shown that Metriguards Model 239A Stress Wave Timer can be used to evaluate a tree with minimal invasive damage. Typical stress wave velocities in a number of healthy trees of many species were recorded for reference; defects were also examined, showing slower velocities. For more information contact Metriguard, Inc., P.O. Box 399, Pullman, WA 99163. Phone: 509-332-7526. FAX: 509-332-0485.

The Hedger, a new hedge trimming attachment for the telescoping Power Pruner, is available from Technic Tool Corporation. The Hedger cutting blade is designed to quickly and efficiently shape, prune, trim and thin hedges, brush and limbs up to 1-1/2 inches in diameter. The blade is manufactured from hardened spring steel for longer teeth life. The Hedger attachment allows users to safely reach, trim and prune in areas they couldn’t normally reach. Technic Tool Corporation, 725 29th Street North, P.O. Box 1406, Lewiston, Idaho 83501. Phone: 208-746-9011.

The J.J. Mauget Company announces that Fungisol has been conditionally reregistered by the Environmental Protection Agency (EPA). The reregistration is based on an extensive review done over the past three years. The reregistered product label still includes the largest number of tree diseases in systemic tree care. The Mauget micro injection system uses a capsule containing a premeasured dose of material, which will be available through distributors. J.J. Mauget Company, 2810 North Figueroa Street, Los Angeles, CA 90065. Phone: 800-873-3779.

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Workforce Products, Inc., offers a trailer mounted Boom Personnel Lift with a maximum working height of 36 feet, a capacity of 300 pounds, a 16-foot reach from center of rotation and 360-degree non-continuous rotation. Standard features are a one-man bucket, outrigger safety switches, lower and upper controls, 110 outlet on platform and more. This boom lift can be pulled behind standard vehicles. The axles may be reduced to 32 inches, so the XLB-3616A can pass through a commercial door, but still be big enough for most jobs on a two-story house. Workforce Products, Inc., P.O. Box 234, 125 Taylor Parkway, Archbold, OH 43502. Phone: 419-445-9675.

Sno-Way International Inc., has just introduced the patented Trail-Buster Dozer/Snoplow for moving snow and almost everything else. Now you can move that rock out of the way, level the pot holes in your drive, do light grading, landscape work, fill in wash-outs, clean up lots and, of course, move lots of snow. The unique design allows all of the power and weight of the vehicle to push to the maximum. Side plate attachments help push and place snow, etc., right where you want it. Hydraulic up and down. Simple attachment features. Sno-Way International, Inc., 844 W. State Street, Hartford, WI 53027. Phone: 800-662-1453.

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By Peter Gerstenberger

On Saturday, October 16, the National Arborist Association hosted “National Arborist Day, A Gift To The American People” at Arlington National Cemetery outside Washington, D.C. Nobody could have predicted the full impact the project was to have.

The 14,000 trees in Arlington present an insurmountable challenge to Arlington’s full-time tree crew of six. The few dollars available for contract work did not stretch far enough. Many of the trees were in dire need of care.

Formal planning for a work project began on January 12. It was then that NAA Director Paul Wolfe and Executive Vice President Robert Felix met with John Metzler Jr. and Eric Diehl, superintendent and horticulturist, respectively, of Arlington. The four discussed the possibility of NAA’s member firms providing a day of public service.

From time to time, NAA has mustered volunteers from its 1000 member companies to provide care for significant public properties. For example, in celebration of the 100th anniversary of the Statue of Liberty, companies from all over the country sent workers to care for the trees at Ellis and Liberty Islands. To celebrate the Bicentennial of the U.S. Constitution, the NAA had a special brochure developed, and NAA’s officers and directors spent the day handing out brochures and explaining the importance of tree care to throngs of interested visitors. Reporters and TV camera crews roamed the grounds, and were met enthusiastically by event organizers and workers.

The dollar value of National Arborist Day at Arlington National Cemetery was estimated to be $250,000. The benefit to the environment was truly invaluable.

In his opening remarks, NAA President Lauren Lanphear summed up the feelings of many: “We gather today as arborists and as members of the National Arborist Association, not just to care for the trees at Arlington National Cemetery - not just to prune and to cable and to fertilize trees. But in so doing, we attempt to express that which we cannot put into words. By giving of what we know how to do best - to care for trees - we express our gratitude and reverence.”

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We are a full service arboriculture firm with offices in the Midwest and the East Coast. With our continued expansion, we are seeking qualified arborists for production, plant health care and sales positions within our company. We consider safety, quality, production and communication to be the foundations of proper tree care. If you believe the same and wish to make arboriculture a career, we would like to hear from you. Send your resume with salary history to Carol Denski, c/o The Care of Trees, Inc., 2371 S. Foster Ave., Wheeling, IL 60090. Phone: 708-394-4220.

Hayes Tree Service, Inc., a twenty-year-old, well-established company in the Boulder Valley, has several positions available for experienced tree trimmers. We are located at the foot of the beautiful Rocky Mountains, home of the University of Colorado, boasting 300+ days of sunshine per year and where recreational and leisure time diversions are plentiful. We offer year-round work, competitive salary and benefits and an attractive location to live and work. If you are an experienced trimmer with knowledge of rope and saddle please contact: Hayes Tree Service, 303-443-9554.

Climber wanted. Small, quality-oriented tree service seeks experienced, motivated individual for crew leader/climber position. Top pay and benefits. Paid vacations. MIF, EOE. Send resume to: Trees'R'Us, Inc., P.O. Box 8294, Tampa, FL 33682.


Arborists/field representatives: Ira Wickes Arborists, one of the oldest and most respected companies in the business, is looking for high quality people to help us continue to grow. Excellent compensation, benefits, incentives. Please send resume or contact us at Ira Wickes Arborists, 11 McNamara Road, Spring Valley, NY 10977. Phone: 914-354-3400.

Experienced arborist to work in sales and production for established company in Chicago’s northern suburbs. Total compensation package available. Call Vince Winkler at 708-531-1181.

Safety and Training Director. We are interested in interviewing the person with the following qualifications for Safety and Training Director. He/she should have a minimum of five years experience in aerial use and tree climbing, be familiar with both private and utility work and have two or more years experience in middle management or above. Prefer some teaching and training experience along with training program development. Must have excellent written and verbal communication skills at all levels and be people-oriented. College education and computer skills a definite plus. Some travel required. Send resume and compensation requirements in care of Tree Care Industry, Box D, P.O. Box 1094, Amherst, N.H. 03031-1094.

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Hardware and software, by an arborist for the arborist. For more information about the industry's best selling package, call or write Arbor Computer Systems, 117 Weston Road, Westport, CT 06880. Phone: 203-226-4335.

Skyworker - Largest new parts inventory, used equipment inventory, major service facility in U.S. Phone: 706-376-3192. FAX: 706-376-1150. Attention: Previous telephone number was incorrect.


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Established tree & landscape firm for sale in New Jersey. Excellent reputation and clientele. Has work year-round. More information available upon request. Serious inquiries please respond to TCI, Box E, P.O. Box 1094, Amherst, NH 03031.


Computer software - Billpower software is the absolute best billing & scheduling software for the arborist. The program prints work orders, invoices, estimates, an accounts receivables report, an appointment list, and much more. Call 800-762-0301 for a free catalog. Marathon Data Systems, 1001 Deal Road, Ocean, NJ 07712.

Looking for a used chipper or stump? Call the Midwest's chipper/stumper supermarket.

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It is not realistic to believe crew members learn job safety from hearing instructions once, twice or even five times. Research shows that learning occurs in pieces, a little bit at a time. Repeating the message and varying the way it is delivered results in a clear and long lasting understanding of the subject. To be effective, safety training must be a formal and continuous part of the work environment.

NAA offers a wide variety of highly effective Safety Training materials developed to fit your business, including TAILGATE SAFETY PROGRAMS, VIDEO TAPES AND HOME STUDY COURSES. Establishing a safety program is easy. NAA even has a guideline to show you how to do it. With a small investment in time you can prevent the loss of valuable man hours, safeguard the lives of your crew and protect against catastrophic loss.

**Take positive action—Safety Train Now!**

National Arborist Association

See the other side of this ad for more information and a convenient order form.

or call

1-800-733-2622

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V-1 Professional Tree Care Safety
General Requirements - Familiarizes tree workers with common terms used in tree care.
Personal Protection - Provides tree workers with the requirements for protecting themselves including how to wear protective gear and positions around equipment.
Equipment Procedures - Details steps for safely using aerial lifts, chippers, stump cutters and power hand tools.
Operational Practices - Teaches good habits by demonstrating the safest ways to carry out common tree care procedures.

V-2 Chain Saw Selection & Maintenance and Chain Saw Use & Safety
Chain Saw Selection & Maintenance - Details steps for matching the correct chain saw to specific arborist tasks. The maintenance portion includes information on selecting and sharpening the chain saw.
Chain Saw Use & Safety - Vital for tree workers using chain saws. This tape includes warning signals of danger, machine-specific usage,精选 techniques and equipment necessary to work safely in proximity to chains.

V-3 Electrical Hazards & Trees and Aerial Rescue
Electrical Hazards & Trees - Reviews the proper tools, techniques and equipment necessary to work safely in proximity to electrical hazards.
Aerial Rescue - Demonstrates procedures for rescuing a victim in a tree or bucket truck.

V-4 Back Injury Prevention
- Covers hazard recognition, stretching and lifting techniques.
- Also includes a "how-to" containing quick questions and documentation forms, as well as wall posters and decals.

V-5 Shade and Ornamental Tree Pruning
Pruning Standards - This tape reviews the four NM classes of pruning.
Pruning Techniques - Discusses techniques and equipment necessary for pruning.

V-6 Chipper Use & Safety
Chipper Use & Safety - Covers drum and disc chippers. Topics include operation, maintenance, personal protection, towing and setup.

Additional Safety Improvement Programs
SI-1 Tailgate Safety
- A comprehensive safety training program which contains 35 sessions with a variety of instruction techniques to assist in presenting material to employees.
- Sessions come with written tests and attendance sheets.

SI-2 Electrical Hazards Awareness Program*
- Includes: Crew Leader's Responsibilities; Personnel Relations; Client Relations; Training; Federal and State Regulations; Production; Job Costs and Profits; and How to Get Ahead.

HS-1 Home Study Program in Arboriculture - Series I
- Offers arborists and their staff economical, effective, technical training. Used properly, it will result in greater efficiency, increased productivity and greater profits.
- Contains over 400 pages. Each course consists of eight sessions.

HS-2 Home Study Program in Arboriculture - Series II
- Each: $40.00 (NA members) $60.00 (non-members)

HS-3 Crew Leader Home Study Program*
- Includes: Crew Leader's Responsibilities; Personnel Relations; Client Relations; Training; Federal and State Regulations; Production; Job Costs and Profits; and How to Get Ahead.
- Each: $80.00 (NA members) $105.00 (non-members)

NOTE: Cost is per enrollee. Please send name(s) of enrollee(s) with check.

STUMP GRINDERS
Rayco 1670 (106 hp) 1992 model diesel - $14,000; 20-hp self-propelled Mini-Workforce - almost new - $4,400; new & used Raycos, most sizes; new Wood Chuck chippers.

CHAIN SAW CLEARANCE
- Prices good through Nov. 30 - quantities limited: Husqvarna 242 & 262; Poulan 415, 20 - $465/list, $600; 475 - $525/list, $699; Power Pruner, $550/list, $650.
- 100' roll 72 LP chain - $199. Call for prices on other Husqvarna and Poulan models, 800-448-7297. Tree Barber Supply, Jackson, MS (Jesus is Lord)

FOR RENT
Large tree spade with experienced arborist/operator. Any place in New England or eastern NY. Develop a new profit center without any capital expenditure. Call Residential For-esters for details, 203-429-9972.

EDUCATION

Classified ad rates: $45 per inch (1-inch minimum), payable in advance, due the 20th of the month two months prior to publication. Send ad and payment to: Tree Care Industry P.O. Box 1094 Amherst, NH 03031
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Wisconsin AENL, Wisconsin V465D, Continental Power Unit and Continental TMD27 (clockwise from lower left)

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No Place For Guesses
A Young Company Learns Not To Underestimate The Tree

By Allen Hof

We all looked up from the base of the tree. It was one of the largest trees we had ever seen, both in width and height. The tree had a circumference of 24 feet, making the diameter eight feet. Our 43-foot aerial lift only reached just below the first crotch in the tree. Needless to say, it was a cottonwood.

Cottonwoods in themselves are no problem when they are in a forest or an isolated area. This particular cottonwood, however, was leaning at about 70 degrees over a small single-story house.

From what the customer had told me, seven other licensed arborists had looked at it and refused the job. About 10 years ago, my father’s company would have accepted the job, no questions asked. This though, was the third major job we took on.

My company, which I own, was fairly new, but my crew and I wanted the challenge. I am 21 years old; my bucket-man was just barely 17, and my ground-man 19.

The first day, as my younger brother (the bucket-man) was lifting me up to the first crotch, I was thinking to myself: “This is nuts, what if I’m tackling something too big.” Since our aerial lift reached four feet under the first crotch, I had to climb the upper 60 feet of the cottonwood. The wind, which was blowing about 35 miles per hour, made for an awful adversary. The branches on which I was standing swayed two to three feet, putting my stomach and my nerves on edge. But, stubbornly, I decided to go ahead with the job that day.

We used the standard block-and-tackle, friction brake lowering device, and rope to delimb the tree. Things were going quite well, until the Close Call. This particular branch was smaller than the others, yet still big enough to do considerable damage to the house. At this point, I was feeling quite confident, and decided to go with a simpler knot. What a mistake! As the branch hit the end of the bull rope, the knot came untied. My heart seemed to stop, as I watched this branch plummet toward the roof of the house.

Fortunately, another gust of wind blew in at just that moment. The branch just missed the house with a few leaves just brushing the shingles and landing three feet from the ground-man. It all happened so fast, it was over before any of us had time to react.

Fortunately, I learned an expensive lesson that didn’t cost me a dime: Never underestimate anything when it comes to the tree business - not the weather, not the rope, not the knots, not the conditions, and not the tree. And never, ever, overestimate your own ability.

The rest of the day was uneventful, except for my unrelenting nerves. At the end of the day, we had only cut down one-half of the tree, making it to that first major crotch. Half the tree plus its 20-foot trunk remained. We left it for the second and last day of this colossal job, which also went well.
What Do You Use in Your Neck of the Woods?

If you are already using a SATURN aerial lift, then you are experiencing the reliability, maneuverability and easy operation that we knew you would expect when our engineers designed it. But we believe that building and designing a good product is just half the job... the rest is quality service. Whether it's helping you make a prudent purchasing decision, getting your equipment delivered to you on time, following up and putting your unit into service, or helping you maintain the machines you use day after day... TECO is always there for you.

Choosing a reliable partner for your business is the best assurance for a solid future. So if you aren't using a SATURN in your neck of the woods... branch out by giving us a call. TECO Sales and Service Centers and Dealers are located nationwide to assist you.

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The SATURN unit is the ultimate tree trimmer with a working height of up to 57 feet. Greater overcenter boom actuation provides exceptional reach capacity for improved productivity. Lower boom actuates 138°.

POINTS TO CONSIDER

• Lower boom actuates 138°
• Excellent side reach - 44 feet
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• Boom actuation without chains or cables
• Smooth, easy one hand control
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Help us Celebrate our 10th Anniversary!

Every day during the entire months of Nov. or Dec., we will be awarding prizes to whoever places the 10th order of the day (over $50).

If you’re the lucky caller who places the 10th order of the day, and your order exceeds $50, you’ll be able to choose from the following:

- Treegator
- First Aid Kit
- Fanno Tri-Cut Saw

And, if you’re the lucky caller who places the 10th order of the day, and your order exceeds $200, you’ll be able to choose from the following:

- Tasco Forestry System Hard Hat
- 120' Samson Ocean 1/2 Arborplex Climbing Rope

**AND...**

Whether you’re a daily winner or not, every time you place an order in Nov. or Dec., you’ll still be eligible to win the Grand Prize of a RATCHETING BOLLARD FRICTION DEVICE—a value of $1080!!

So place your order today!

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**Practical Rigging**

**AVOIDING THE PITFALLS OF OVER RIGGING**

When looking at the advertisements in T.C.I. and in other arborist trade publications, and looking through catalogs from suppliers, you realize that there are a multitude of tools available. Most of the tools on the market today are wonderful because they make dangerous jobs safer and easier for both climbers and ground personnel.

Today we have tools for lowering limbs, tools for raising limbs, rigging for taking out tops and rigging for moving branches from the tree to the truck and chipper without touching the ground. There are large descenders, small descenders, and hundreds of carabiners.

Some tools will work well in one application and not be adequate in another. This is why choosing the right tools for your particular type of work is so important. It is wise to talk to many different people before you make your choice or you could find yourself trapped in your rigging.

Not long ago, I was watching a man remove a large oak. His climbing skills were good. He moved with great ease and had a good grasp of the situation. The biggest problem was that he had so many tools with which to work that he over-rigged everything. On every limb he removed, he would put two or three ropes and pulleys... and whatever else he had in his gear bag. Situations like this expose the climber and the groundmen to more moving lines than necessary. As a removal becomes more complicated, it is more difficult to control all of the variables. Most accidents seem to occur when there are multiple lines to control. It is much easier to run two lines, and keep them untangled, than it is to run six.

Knowing when to use something is every bit as important as knowing how to use it. If these two pieces of knowledge are not used hand-in-hand, you’ll be heading for trouble. I’ve seen many people use a one-inch block and a one-half-inch rope to remove a three hundred pound limb. The rigging is set correctly, just with the wrong tools. There is no reason to haul around a heavy pulley which will accommodate a one-inch rope when a much smaller pulley could do the job much more efficiently without wearing out the climber.

Of course, if you find yourself thinking “the rope should hold” or “I think it will go”... don’t do it! Proceed only if you know it will go. Remember: If you crash a roof, dent a car, destroy a fence or gouge a lawn, it will never be forgotten. Then nobody will remember the two hundred successful take-downs when you didn’t even bend a blade of grass.

When the young man I mentioned earlier was finished taking down the oak and asked me what I thought, I said “With all of this room, I think I would have just jumped the top out of the tree.”

He smiled and replied, “Yes, I know... but that’s no fun.”

I hope his boss had bid the job by the hour. He did a good job, but it took many hours longer than necessary and he exposed himself and his crew to unnecessary and potentially hazardous rope handling.

While it is important to keep up with all of the new tools and techniques available to arborists today, do not try them all out on one job. The point of the articles we have been offering is Practical Rigging. If you think you need to talk to someone who can give you a good perspective on removals, contact Dick Miller at American Arborist Supplies. Remember, he comes from the field, just like you and me.
“JAG TRODDE AIR INJECTION VAR EN GIMMICK. O BOY, VAD JAG HADE FEL.”

(“I THOUGHT AIR INJECTION WAS A GIMMICK. BOY WAS I WRONG.”)

“For years, I’ve used all kinds of saws and I can’t believe what a difference this Air Injection™ makes.

“Run this saw just like I run it, all day. Then look at the filter and be surprised because you’ll see a clean filter. I clean my filter only once a week now. Some guys, I know, clean it only once every 2 or 3 weeks.

“Also, my Husqvarna 262XP with Air Injection runs the whole day long for me with the same high RPM’s. Other saws that I have used before almost always lose 300, 400 or 500 RPM’s by the end of the day. With this new Air Injection system, my Husky always runs at the same RPM’s at the end of the day as it did when I tuned it first thing in the morning. And you know what that means to us out there in the woods.

“I’m telling you, Air Injection is excellent. Try it and you’ll never use another saw.”

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OUR NEW MODEL
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60' Working Height, 50' Side Reach

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