

Crane Use and Safety in Tree Care



By David Rattigan

The late Freeman Maltby was ahead of his time. Maltby started using cranes for tree removal in 1950, just a year after he founded his tree company. He bought his first crane five years later, according to his son, Bill, who notes that this was “long before it was fashionable.”

Bill Maltby, now a partner in the company his dad founded, Maltby & Co. of Stoughton, Mass., recalls that in those days big trees were cut by climbers and the branches dropped to the turf, a method that could be messy, inefficient and dangerous.

“He was trying to find a safer, more effective way to remove trees,” says Maltby. “He realized that you could hang it from a crane and lower everything down with some control. Part of his thinking was to get more control coming down.”

These days, removing large and difficult trees is one of many specialties for Maltby & Co., which owns two 120-foot cranes and keeps both of them working on a daily basis. The company mostly uses them for tree removals, but will also sometimes use its cranes for planting.

“If you need to lower a new tree into a difficult spot, it’s a great way to do it,” Maltby says. His company has taken trees down over expensive properties, including moving them over greenhouses on more

Employees from TCIA-accredited member Tree Tech Inc. of Foxboro Mass., use a crane to remove a tree at the Crane Estate in Ipswich Mass. Photo by Ivan Petrovsky.

than one occasion.

And instead of letting the limbs and sections of trunk fall to the ground, landing in a circle around the tree, the crane will place everything in one area, for easier chipping or transport away from the site.

In the past 10 years, and particularly over the last five, the use of cranes for tree work seems to have increased greatly. Arborists find that a crane and a well-trained crew can bring in additional work and help them do jobs with greater speed, safety and versatility –as well as with less wear and tear on its manpower and the sur-

rounding environment.

“Your insurance rates can go down, you can do a lot more with a smaller crew, and the impact on the customer’s property is much less,” Maltby insists. “We can take a tree down over sensitive areas and not get the breakage that you would years ago.”

That trend can bring mixed feelings from those with experience using the cranes, and not because they’re concerned about the competition. There’s also a great concern about safety.

Safety was in the spotlight this spring in Massachusetts with two crane accidents occurring during tree take-downs. Rain-saturated ground was thought to be a contributing factor in both cases, during which the cranes tipped over and crashed to the ground.

“When there’s an accident, it’s very bad for the company and very bad for the industry as well,” says Mark Cicoria of Cicoria Tree Service, based in Danvers, Mass. “If a crane goes into a house, a company can expect to see a premium increase, but there’s also an affect on everybody’s workers’ compensation insurance.”

Of course, it’s not just the monetary cost that worries those in the tree care industry, nor the additional regulations that might come because of concern over accidents, nor concern over bad publicity that might besmirch others in the industry. The larger concern is that an employee might be hurt, or worse.

“The worst thing for a company is to have somebody injured, and most accidents are avoidable,” Maltby stresses.

Right tool, right job

Like Maltby, Cicoria’s company was one of the first in his region to begin using cranes, and has made it one of the company’s specialties. Based north of Boston in Danvers, Mass., (Maltby is south of the state’s capital city) the company founded by his brother bought its first cranes in 1985, when Mark was a high school student and working as a climber for the company.



Proper crane use can greatly increase efficiency and safety in removal operations – provided both the tree crews and crane operator are well trained.

He is now climber and crane operator, as well as president of the company, which operates four crews including one that uses a crane.

“This is an equipment-oriented industry, and there’s a right tool for every job,” he says, noting that the crane is particularly effective in suburban areas where it’s important to limit the impact on a surrounding house or yard.

“The crane is the closest to zero impact you can get,” Cicoria says, “which is good for your customers.”

Many of the tree companies that are newer to crane use are following a path similar to the one taken by Andy Felix, who has run Tree Tech, Inc. of Foxboro,

Mass., for 20 years. A TCIA-accredited company, Tree Tech bought its first crane in 1997 and now runs three crane crews.

Tree removal was not necessarily a direction he planned to go in, says Felix, son of Robert Felix, the former TCIA (then the National Arborist Association) executive vice president.

“So many old trees were dying or declining and the need was so great,” he recalls. At first, he would subcontract the services of a crane and operator, but eventually the demand for crane-related tree removal was so great he decided to buy a crane for the company.

“It was all math for us,” Felix explains. As demand grew, the company added a



One of two 120-foot cranes owned and operated by Maltby & Co. of Stoughton, Mass., a TCIA member company, removes a tree at the Crane Estate in Ipswich, Mass. The company mostly uses cranes for removals, but will also sometimes use its cranes for planting.

second crane, then a third. Other companies came to use Tree Tech as a subcontractor when they needed a crane.

“Trees don’t live forever,” Felix says. “A lot of trees planted in New England in the early 1900s are reaching the end of their life span. That’s hazardous, and they need to be removed. Also, there is more vegetation now than 100 years ago, and a lot of competition in people’s yards.”

For a variety of environmental reasons, Felix says, the white ash species also has gone into decline in the metro-Boston region.

“We knew that the tree removal part of the business was inevitable, and there was enough demand to justify this. I felt that if we were going to do tree removal, we were going to do it as well as it can be done. To do that, I knew we would be using a crane in many situations.

“It’s a lot easier on the guys, because they’re not lifting heavier pieces,” he says. “The incidence of back injuries and other injuries are reduced tremendously. Using modern equipment makes their work life easier, and I think they take pride and have more enthusiasm for the job because they’re working with modern equipment.”

Before a company decides to make the jump to purchase its own crane, Cicoria says, it should consider more than just the obvious financial factors. For some smaller companies, renting a crane and operator on an as-needed basis may make better fiscal sense.

While a crane and crew can be more productive than a crew without a crane, there are additional costs that go into running a crane, including insurance, maintenance and fuel.

“For me and other businesses my size or thereabouts, you have to have a steady flow of crane work,” Cicoria says. “If the crane sits for a day or two, you can’t recoup that.”

Having a crane may also require a com-



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pany to develop (and pay for) teams with additional skill sets, particularly a skilled operator who can adapt his technique to the particular demands of tree work.

“If you pick up the top of a tree 80 feet in the air, you own it,” Cicoria says. “You don’t have a second chance. If you’re working on the Big Dig (a Boston tunnel

project) and you get a load you can’t lift, you can put it down. You don’t have 80 feet to travel to get your load to the ground.”

Safety first

All three arborists agree on the need for safety, and on some basic building blocks for maintaining a safe standard when

working with cranes.

Bill Maltby and his brother, Bob, testified in Washington, D.C., in 2004, as the American National Standards Institute drafted new rules for crane safety and standards. He says there are certain basic rules that are keys to operating a safe work site, starting with having a well-trained and licensed crane operator, as well as a climber versed in the latest climbing techniques.

“You need a crew that is safety conscious with safety awareness,” says Maltby, a member of the Massachusetts Arborist Association Safety Committee. “There should be regular safety meetings and job site meetings.”

“Outriggers need to be properly cribbed and weight dispersed evenly on the ground, and the operator needs a stable setup before he puts the boom in the air.”

Mark Cicoria

A crew should avoid the natural tendency to arrive at a job site and go straight to work, confident in each others’ abilities, without reviewing the job and its potential dangers at the site first. “You have to ward off complacency and stay aware,” he says. “If the crew falls into action and they don’t communicate first, and just go by the feel of the job, that’s not good.”

Pre-climb preparation should also include inspection of both the equipment and the site, Cicoria explains. Inspection of the crane shouldn’t be limited to the annual inspection done by a dealer, he says, noting that at his company a crew member will look over the equipment to be sure

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“We make sure it’s in perfect working order,” says Cicoria, who works as both a crane operator and a climber. “We don’t assume that because we used it yesterday that it’s perfect today.”

He also noted that a job site should be assessed for any potential hazards when the crew arrives for work. Among the things to check for are high winds, telephone or power lines or other obstructions up high, and soggy sod or possibly a septic tank in the ground.

“There are old tanks people don’t know about,” says Cicoria, who noted that old tanks are sometimes not removed and left empty, which can present a possible cave-in risk when a crane is set up on the ground

above. “I ask the homeowner, ‘Do you have a septic tank? Where? Can I see the plans?’ ”

Lack of stability on the ground may cause the crane to tip, Maltby says.

“Outriggers need to be properly cribbed and weight dispersed evenly on the ground,” he adds. “An operator needs a stable setup before he puts the boom in the air.”

Communication among crew members, particularly the climber and the crane operator, is extremely important, adds Cicoria. The equipment may be loud, and on some jobs – such as one in which the crane is on one side of a house, a tree on the other – the operator and climber may not be in visual contact.

“We try to use headsets to be sure there’s voice communication between the climber

and crane operator,” he says.

The teamwork involved is another reason Cicoria cautions small companies with a limited amount of work to consider subcontracting their crane work instead of buying a crane for a small handful of jobs each month.

“If you’re working with a crane two or three times a month, it’s much more dangerous than when you’re working with a crane crew that goes out every single day,” he says. “There’s a whole different dynamic.”

The experience of both climber and crane operator is also an important part of a successful operation. Cicoria noted that a climber working with a crane positions himself quite differently than one not working with a crane – everything that is removed comes from over his head, basi-

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cally. "Everything is going up, instead of down below him."

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A crew from TCIA-member Mayer Tree Service in Essex, Mass., delivers a section of a larch tree to the chipper. Photo by Ivan Petrovsky.

A crane operator needs to be well versed in the work load chart, which provides an indicator of the crane's leverage and lifting ability based on weight of the load, angle of the boom, and extension. He or she will also benefit from experience working in the tree industry.

"There are a lot of variables," Felix says. "The weight of every tree species is different, and there's a lot of unbalanced weight to deal with. A steel beam or air conditioning unit is always going to be the same weight, but with trees there are a lot of variables.

"Leverage is the crucial factor," he adds. "Most problems that occur with crane acci-

dents come when guys take too big a piece. That's when you see accidents happen."

Conclusion

So, are you thinking a crane might be right for your business? Remember that in addition to the cost of the crane, there is the cost of having a crew trained and dedicated to it. Do you have enough work to keep it busy? Can you afford to operate it safely? Will your workload grow fast enough to afford owning it? Would subcontracting your crane work be a better idea for now, until you build your crane business and have the crew to staff it? All good questions that only you, or your business consultant, can answer.

